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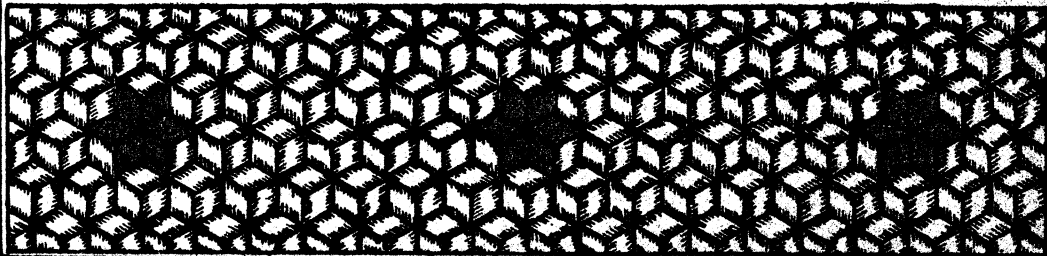
THE PHILIPPINE CRAFTSMAN

NOVEMBER, 1912

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ADVANCEMENT OF INDUSTRIAL
INSTRUCTION IN THE PUBLIC
SCHOOLS OF THE PHILIPPINES

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The Philippine Craftsman

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MANILA, NOVEMBER, 1912

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CONTENTS

	Page
System of Apprentice Instruction in the Manila Bureau of Printing. By Samuel H. Musick - - - - -	365
Notes on Vocational Guidance. By W. W. Marquardt - - - - -	385
The Domestic Science Course for Scholarship Teachers in the Philippine Normal School. By A. W. Cain - - - - -	393
Philippine Mats (Concluded) - - - - -	401
Editorial and Official - - - - -	427
Industrial Notes - - - - -	438

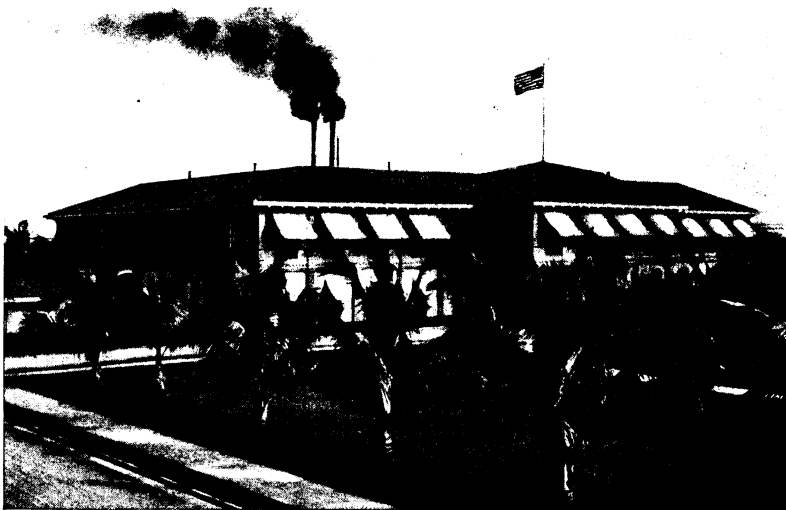
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WE ARE LEARNING THAT INDUSTRIAL PROSPERITY DEPENDS IN THE LONG RUN ON A KIND OF EFFICIENCY THAT AGGREGATIONS OF CAPITAL, HOWEVER IMPOSING, CAN NOT BY THEMSELVES SUPPLY, AND THAT IN VERY MANY OF THE MOST DESIRABLE INDUSTRIES THE SECRET OF SUCCESS IS IN THE TRAINED INTELLIGENCE AND DISCIPLINED TASTE OF THE MAN WHO DOES THE WORK; THAT THE DEVELOPMENT OF THESE POWERS IN THE WORKMEN OF THE FUTURE IS AN IMPORTANT BRANCH OF GENERAL EDUCATION, AND ITS ACTIVE PROMOTION AND ADEQUATE SUPPORT A LEGITIMATE PUBLIC CONCERN.

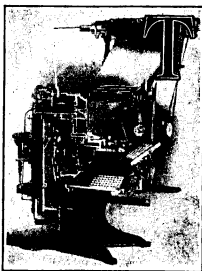
—LESLIE W. MILLER.



The Bureau of Printing, Manila

SYSTEM OF APPRENTICE INSTRUCTION IN THE MANILA BUREAU OF PRINTING

By SAMUEL H. MUSICK, *Craftsman Instructor, Bureau of Printing*



THE Manila Bureau of Printing has instituted a system of apprentice instruction which is a radical departure from all known methods of vocational training. The practicability of its scheme has received world-wide approval. Leaders in the graphic arts and instructors in institutions devoted solely to teaching printing and its allied trades have expressed admiration at the fullness of its details and the coherence of its parts. Instructors in Harvard University, impressed with the thoroughness of the Bureau's system, have signified their intention of using its material in connection with this year's course in printing in the Harvard Graduate School of Business Administration.

The efficacy of the system is best evidenced by the evolution from an all-American force in 1902 to the present one composed

The printed word is the greatest contribution to man's storehouse of knowledge. The gift of knowledge is man's inalienable possession. Its benefits can be freely imparted, but its substance can not be bartered or given away

of 94 per cent of Filipino workmen. Of this native element, apprentices constitute 63.63 per cent. All of the mechanical work of the Bureau of Printing is being performed by Filipinos, Americans acting only in a supervisory capacity.

Apprentice instruction places the Bureau of Printing in a position unique among the world's printing offices. No other public or private *producing* establishment in existence is operated with so large a percentage of students comprising its technical force. In American and European printing offices the apportionment of apprentices to journeymen is on a basis of from 1-to-15 to 1-to-5, whereas in the Bureau of Printing the present ratio is $1\frac{3}{4}$ apprentices to 1 native craftsman.

The Bureau, however, is not primarily a school of printing. It furnishes all the printing and binding for the Philippine Government and certain work for local stations of the United States

A Battery of Linotypes, Composing Division, with Filipino Operators



Army and Navy. Among its customers are the various Insular bureaus and offices, the Philippine Legislature, 38 provinces, and 725 municipalities. Its modern equipment consists in part of twenty linotypes; thirty cylinder, platen, embossing, and automatic printing presses; fifty bookbinding machines; twenty-five stereotyping and electrotyping machines; a photo-engraving plant equipped for line, half-tone, and color-process engravings; a machine shop; and a power plant in duplicate. The plant is valued at ₱1,000,000.

During the last decade the business of printing and publish-

The printing press is the great contributing factor to the progress of the human race. The industrial success and intellectual advancement of all nations may be measured by the quantity and quality of their printed matter

ing has advanced from a comparatively obscure position to sixth place among American industries. In 1909, the last year for which statistics are available, its products were valued at \$1,500,000,000.

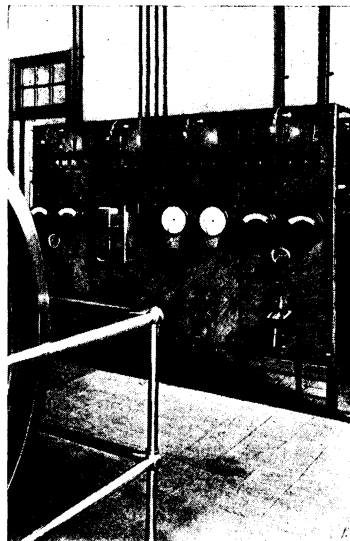
Coincident with the amazing growth of the printing industry there has been rapid development along the line of technical education in order to improve the quality of workmanship. Printing courses have been established in public and private schools, in which this vocational work is now being carried on in many States of the Union. The Congress of the United States has also recognized the need of industrial instruction in the skilled trades. There is now pending in that body a measure which provides that the Government shall establish and exercise control over trade schools in all parts of the country.

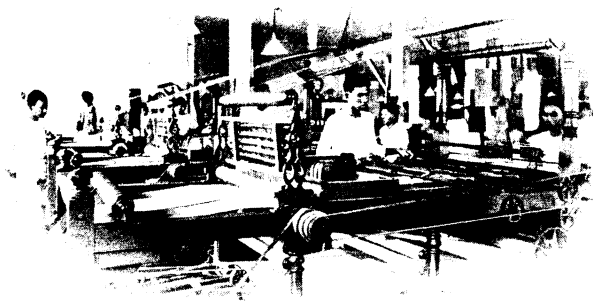
The Bureau of Education is in charge of all industrial education in the Philippines with the exception of printing and its allied trades, which are in the hands of the Bureau of Printing. Both Bureaus are under the supervision of the Secretary of Public Instruction.

The principle of the instruction imparted in the Bureau of Printing is to form a systematic and coördinate sequence, and, to accomplish this, all the operations of each trade are divided into specialties and subspecialties, which are segregated into classes in the order of their relative importance.

The manner in which the specialties and subspecialties are

*Marble Switchboard, Power Plant Division
Erected by Apprentices*



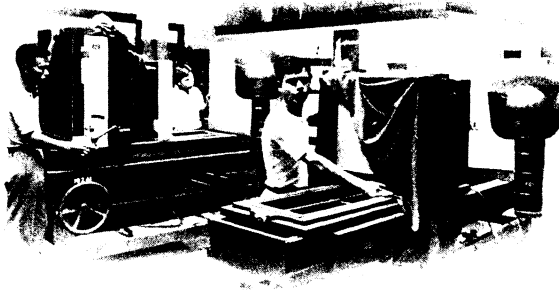
*Ruling Machines in the Bindery*

arranged for each of the eight trades taught in the Bureau of Printing is shown in Plates I and II. Numbers are assigned to specialties and letters to subspecialties. Plates I and II pertain to the photo-engraving trade, which is divided into 41 specialties and 154 subspecialties.¹ The same general scheme is applied to each of the trades, the number of specialties and subspecialties in each division being as follows:

Trade.	Specialties.	Subspecialties.	Total.
Printer	47	258	305
Pressman	45	136	181
Bookbinder	74	196	270
Photo-engraver	41	154	195
Stereotyper and electrotypist	40	140	180
Total	247	884	1,131

Fifty-five specialties and 265 subspecialties are taught in the

¹ In explanation of the hiatus from 32 to 101, it may be stated that the numbers assigned to specialties are the same for both the apprenticeship and cost-accounting systems of the Bureau, viz, 1 to 100, inclusive, for chargeable specialties; 101 and upward for nonchargeable specialties. A further division of chargeable specialties is made in those divisions having both machine and hand specialties, as follows: Machine, 1 to 50, inclusive; hand, 51 to 100, inclusive. This system of numbering enables the abstractor to make all entries from the workman's daily time ticket (Plate III) without reference to an explanatory list of specialties; and its advantages will be apparent when it is understood that machine and hand rates are segregated and that nonchargeable specialties ordinarily are not abstracted.



Graduate Apprentices As Operators

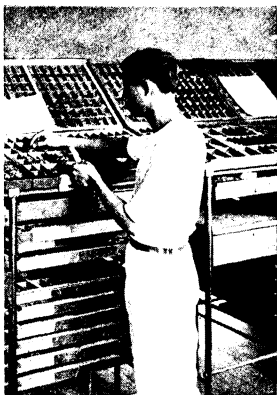
auxiliary trades of engineer, machinist, and electrician, making a grand total of 302 specialties and 1,149 subspecialties in the eight trades mentioned.

The specialties of each trade are distributed over seven periods, or four years in all. During the first three years (six periods of six months each) the student is designated as an "apprentice," and in the final period of one year he is known as a "junior craftsman." This provides ample time in which the student may familiarize himself with each specialty of the trade. It is not contended that within that time a superior workman can be evolved from the crude material, but the four-year period of systematic instruction has proven adequate for turning out workmen who have assimilated a general knowledge of all the specialties of their trades. Graduate apprentices are also given opportunities to demonstrate their fitness for the positions of copy editor, proof reader, work-order writer, computer, estimator, and such other assignments as require workmen of wide experience. A comprehensive technical reference library, available to all, affords an excellent medium for self-education in office administration and organization, the relations of the various printing trades to each other, and the physical qualities of the more important printing-office materials. The value of the information contained in this library is impressed upon the mind of the apprentice, and he is urged to consult it freely.

Bureau of Printing apprentices have a distinct advantage in not being required to devote any part of their time to running

errands, "sweeping out," and other tasks that usually occupy the greater part of the first year of apprentices elsewhere.

Although this is an age of specialization, it is believed that the most efficient workman is one trained in all of the operations pertaining to his trade, making him more adaptable as a competent specialist. This method also provides a mobile force, advantageous alike to employer and employee.



A Class 6 Apprentice

A system of instruction whereby each workman becomes thoroughly conversant with all of the details of his trade makes him superior to that neglected class which is subjected to a monotonous grind on one class of work. It places him thoroughly in line with the principles of so-called scientific management, because during his apprenticeship he unconsciously acquires much of what such systems are now endeavoring to establish.

The first class period of six months is considered ample in which to determine an apprentice's fitness for the trade to which he has been assigned. If he shows inaptitude, particularly with respect to mechanical details, he is advised to seek other fields of labor. Justice to the employee as well as to the employer demands frankness in a matter that influences the formative period of a boy's life. If an apprentice demonstrates aptitude during his first class period but is unable to qualify for promotion within the prescribed period of six months, he is retained in the class until he has thoroughly mastered the specialties of that class period. The extension, however, in no case exceeds three months. If, after three months' extension, an apprentice fails to qualify for



Imposing Forms for Press

promotion, he is separated from the service. It has been demonstrated that changing an apprentice's classification, with a corresponding increase in compensation, confers a mark of distinction and gives him an incentive to maintain his interest in the work. As new kinds of work are introduced at the beginning of each class period, it may readily be surmised that an apprentice will put forth his best efforts to master the specialties of his current class in order to advance from the monotony of a class-end period to the welcome change afforded by new duties.

A prerequisite to the success of any apprenticeship system is the employment of instructors who are thoroughly skilled in their work. They must have not only unusual ability and the faculty of imparting their knowledge, but also, what is more important, the disposition to impart that knowledge in the freest manner and to the fullest extent.

In the Bureau of Printing the attitude of a craftsman instructor toward an apprentice is similar to that of a teacher and pupil in a school. The instructor instills into the mind of

the student the importance of exerting every effort toward attaining efficiency. The apprentice is given a scheduled task and shown the proper manner in which it should be performed. He is never permitted to become a mere animated machine. Instructors take a personal interest in the work of each apprentice, carefully explaining every operation.

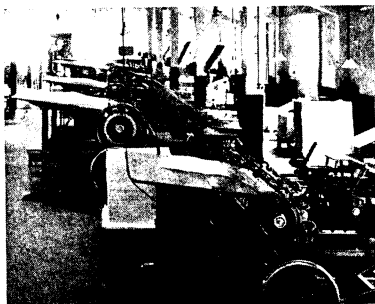
The apprentice is never forced to acquire his knowledge through chance contact with other workmen.

A competent craftsman instructor or supervisor should be

[Continued on page 378]



A Row of Platen Presses



Some of the Cylinder Presses

PLATE I

MANNER IN WHICH ALL OPERATIONS OF EACH TRADE ARE SEGREGATED INTO SPECIALTIES AND SUBSPECIALTIES. THE EIGHT TRADES TAUGHT IN THE BUREAU OF PRINTING CONSIST OF 302 SPECIALTIES AND 1,149 SUBSPECIALTIES. INSTRUCTION IN EACH TRADE IS IMPARTED ACCORDING TO AN INVARIABLE SCHEDULE (SEE PLATE II)

PHOTO-ENGRAVING SPECIALTIES

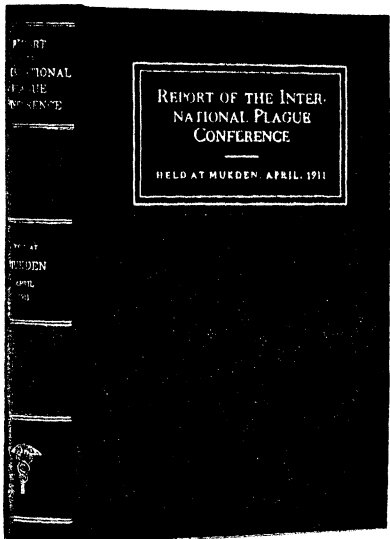
CHARGEABLE		
<p>1. Alterations.</p> <p>2. Anchoring:</p> <ul style="list-style-type: none"> (a) Drilling anchor holes. (b) Countersinking anchor holes. (c) Outlining anchor marks. (d) Tinning anchor marks. (e) Casting anchors. <p>3. Borelling, plain:</p> <ul style="list-style-type: none"> (a) Adjusting mechanism. (b) Aligning plate with line gauge and clamping down. (c) Beveling, leaving plain border. (d) Cutting graved or white line. (e) Beveling, leaving black and white line border. <p>4. Borelling, special (finishing):</p> <ul style="list-style-type: none"> (a) Adjusting mechanism. (b) Aligning plate with line gauge. (c) Cutting black and white lines in multiple or extended lines. (d) Making raised border line by burring up. (e) Cutting raised line down to printing surface and graving white line. (f) Beveling. <p>5. Blocking or mounting:</p> <ul style="list-style-type: none"> (a) Adjusting mechanism. (b) Center punching for countersinks. (c) Drilling countersinks for tack heads. (d) Planing blocking wood smooth on one side. (e) Nailing cuts to blocks. (f) Planing mounts type high. (g) Trimming and squaring blocks. (h) Sandpapering corners and raw edges. (i) Routing out large blanks. (j) Blocking or mounting to register. <p>6. Cut outs:</p> <ul style="list-style-type: none"> (a) Tooling outline. (b) Routing. (c) Trimming. <p>7. Cutting circles or orals:</p> <ul style="list-style-type: none"> (a) Cutting cardboard mat to size. (b) Trimming negative by mat. (c) Tooling outline. (d) Routing. (e) Trimming. <p>8. Drawing (illustrating, designing, lettering):</p> <ul style="list-style-type: none"> (a) Pen. (b) Wash. (c) Air brush. (d) Colors. (e) Preparing black and white copy for color reproduction. (f) Coloring transparencies. <p>9. Etching, copper, half-tone:</p> <ul style="list-style-type: none"> (a) Flat etch. (b) Staging and retouching. (c) Trial proof. (d) Preparing and mixing etching solutions. <p>10. Etching, copper, line:</p> <ul style="list-style-type: none"> (a) Etching line print. (b) Retouching etching. (c) Powdering and burning in line work. (d) Preparing and mixing etching solutions. <p>11. Etching, half-tone, color:</p> <ul style="list-style-type: none"> (a) Flat etch. (b) Trial proof. (c) Staging and retouching. (d) Preparing and mixing etching solutions. <p>12. Etching, zinc, half-tone:</p> <ul style="list-style-type: none"> (a) Flat etch. (b) Staging and retouching. (c) Trial proof. (d) Preparing and mixing etching solutions. 	<p>13. Etching, zinc, line:</p> <ul style="list-style-type: none"> (a) Etching line print. (b) Retouching etching. (c) Powdering and burning in line work. (d) Preparing and mixing etching solutions. <p>14. Finishing, half-tone:</p> <ul style="list-style-type: none"> (a) Spotting. (b) Extending corner lines. (c) Burnishing. <p>15. Finishing, half-tone, color:</p> <ul style="list-style-type: none"> (a) Spotting. (b) Extending corner lines. (c) Burnishing. (d) Outlining for cut outs. (e) Trimming cut outs. (f) High-lighting. <p>16. Finishing, line:</p> <ul style="list-style-type: none"> (a) Spotting. (b) Trimming. (c) Repairing. (d) Correcting. <p>17. Morthing:</p> <ul style="list-style-type: none"> (a) Adjusting mechanism. (b) Outside mounting. (c) Inside mounting. <p>18. Mounting or grouping original copy:</p> <ul style="list-style-type: none"> (a) Grouping of copy for half-tone reproduction. (b) Grouping negatives for printing. (c) Grouping or arranging objects for half-tone reproduction, color work, and dry-plate photography. <p>19. Photographing, color operating; making color record negatives:</p> <ul style="list-style-type: none"> (a) Color sensitizing dry plates. (b) Focusing color copy. (c) Exposing color sensitized plates through color filters. (d) Developing record negatives. (e) Clearing and fixing record negatives. (f) Intensifying record negatives. (g) Reducing record negatives. (h) Printing transparencies from record negatives. (i) Developing transparencies. (j) Clearing and fixing transparencies. (k) Intensifying transparencies. (l) Reducing transparencies. (m) Preparing dye solutions for color sensitizing. (n) Preparing and mixing chemicals. <p>20. Photographing, dry-plate work:</p> <ul style="list-style-type: none"> (a) Interior views. (b) Outside views. (c) Copying prints, enlargement or reduction. (d) Preparing copy from colored pictures or objects for half-tone reproduction. (e) Making transparencies. (f) Mounting prints. (g) Preparing and mixing chemicals. <p>21. Photographing, half-tone:</p> <ul style="list-style-type: none"> (a) Focusing copy. (b) Collodionizing and sensitizing plates. (c) Adjusting screen. (d) Placing plate in plate holder and timing exposure. (e) Developing negative. (f) Clearing negative. (g) Intensifying negative. (h) Clearing and cutting negative with cyanide. (i) Final intensification. (j) Preparing and mixing chemicals. 	<p>22. Photographing, half-tone, special (reproduction of pencil drawings, etchings, and steel or copper plate prints).</p> <p>23. Photographing, line:</p> <ul style="list-style-type: none"> (a) Focusing line. (b) Collodionizing and sensitizing plate. (c) Placing plate in plate holder and timing exposure. (d) Developing negative. (e) Clearing out developer with cyanide. (f) Intensifying negative. (g) Clearing negative. (h) Final intensification. (i) Final clearing. <p>24. Printing negatives:</p> <ul style="list-style-type: none"> (a) Sawing and polishing metal. (b) Coating metal with sensitizing solution. (c) Printing negatives. (d) Rolling up print. (e) Washing and developing out plate after printing. (f) Burning or baking in enamel. (g) Retouching print. (h) Preparing and mixing line and half-tone printing solutions. <p>25. Proofing:</p> <ul style="list-style-type: none"> (a) Black and white. (b) Color. <p>26. Recut-graving.</p> <p>27. Retouching:</p> <ul style="list-style-type: none"> (a) Copy. (b) Negatives. (c) Plates. <p>28. Routing:</p> <ul style="list-style-type: none"> (a) Adjusting mechanism. (b) Line work. (c) Half-tone cut out work. (d) Sharpening router bits. <p>29. Stripping negatives:</p> <ul style="list-style-type: none"> (a) Cutting negatives with rubber. (b) Coating negatives with collodion. (c) Cutting and squaring negative film. (d) Stripping, reversing, and transferring negative film to plate glass. (e) Preparing and mixing stripping solutions. <p>30. Transparencies.</p> <p>31. Vignetting:</p> <ul style="list-style-type: none"> (a) Outlining. (b) Tooling. (c) Etching. (d) Routing. (e) Trimming. (f) Underlaying. <p>32. Zinc overlays:</p> <ul style="list-style-type: none"> (a) Cutting zinc to size. (b) Cleaning and polishing. (c) Drying. (d) Pulling offset on zinc. (e) Retouching zinc offset. (f) Powdering and burning in. (g) Etching.
NONCHARGEABLE		
<p>101. Cleaning machinery.</p> <p>102. Corrections, office.</p> <p>103. Instructing apprentices.</p> <p>104. Laborer.</p>	<p>105. Mixing and preparing chemicals.</p> <p>106. Practice work.</p> <p>107. Supervising, inspecting finished product, and similar work.</p>	<p>108. Waiting for repairs (write name of machine.)</p> <p>109. Waiting for work (will not be allowed unless employee reports immediately to the Foreman).</p>

PLATE II

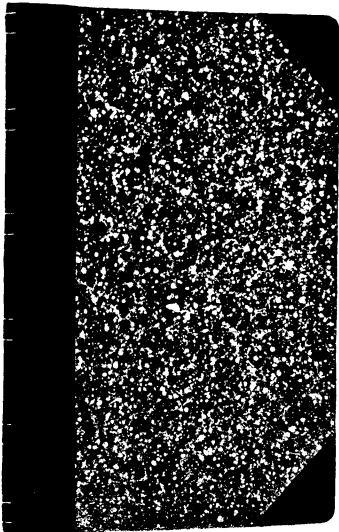
SHOWING THE MANNER IN WHICH SPECIALTIES AND SUBSPECIALTIES ARE DIVIDED INTO CLASSES IN THE ORDER OF THEIR RELATIVE IMPORTANCE, MAKING A SYSTEMATIC AND COORDINATE SEQUENCE OF INSTRUCTION

APPRENTICE THREE YEARS, DIVIDED INTO SIX CLASSES OF SIX MONTHS EACH		
Class 6 (Entrance).	Class 5.	Class 4.
24. Printing negatives (lin-): (a) Sawing and polishing metal. (b) Coating metal with sensitizing solution. (c) Printing negatives. (d) Rolling up print. (e) Washing and developing out plate after printing. (f) Burning or baking in enamel. (g) Retouching print. (h) Preparing and mixing line and half-tone printing solutions.	28. Routing: (a) Adjusting mechanism. (b) Line work. (c) Half-tone cut out work. (d) Sharpening router bits.	24. Printing negatives (half-tone): (a) Sawing and polishing metal. (b) Coating metal with sensitizing solution. (c) Printing negatives. (d) Washing and developing out plate after printing. (e) Retouching print. (f) Burning or baking in enamel. (g) Preparing and mixing line and half-tone printing solutions.
13. Etching, zinc line: (a) Etching zinc print. (b) Retouching etching. (c) Preparing and burning in line work. (d) Preparing and mixing etching solutions.	29. Stripping negatives (lin-): (a) Coating negatives with rubber. (b) Coating negatives with collodion. (c) Cutting and squaring negative film. (d) Stripping, reversing, and transferring negative film to plate glass. (e) Preparing and mixing stripping solutions.	32. Zinc overlays: (a) Cutting zinc to size. (b) Cleaning and polishing. (c) Drying. (d) Pulling off set on zinc. (e) Retouching zinc offset. (f) Powdering and burning in.
5. Blocking or mounting: (a) Adjusting mechanism. (b) Center pinching for counterblocks. (c) Drilling counterblocks for task heads. (d) Planing blocking wood smooth on one side. (e) Nailing cuts to blocks. (f) Planing mount-type high. (g) Trimming and squaring blocks. (h) Sandpapering corners and raw edges. (i) Routing out face blanks. (j) Blocking or mounting to register.	105. Mixing and preparing chemicals.	105. Mixing and preparing chemicals.
Class 3.	Class 2.	Class 1.
29. Stripping negatives (half-tone): (a) Coating negatives with rubber. (b) Coating negatives with collodion. (c) Cutting and squaring negative film. (d) Stripping, reversing, and transferring negative film to plate glass. (e) Preparing and mixing stripping solutions.	1. Alterations. 2. Anchoring: (a) Drilling anchor holes. (b) Countersinking anchor holes. (c) Outlining anchor marks. (d) Timing anchor marks. (e) Casting anchors.	23. Photographing, line: (a) Focusing line. (b) Collodionizing and sensitizing plates. (c) Placing plate in plate holder and timing exposure. (d) Developing negative. (e) Clearing out developer with cyanide. (f) Intensifying negative. (g) Clearing negative. (h) Final intensification.
18. Mounting or grouping original copy: (a) Grouping negatives for printing.	9. Etching, copper, half-tone: (a) Flat etch. (b) Staging and etching. (c) Trial proof. (d) Preparing and mixing etching solutions.	21. Photographing, half-tone: (a) Focusing copy. (b) Collodionizing and sensitizing plates. (c) Adjusting screen. (d) Placing plate in plate holder and timing exposure. (e) Developing negative. (f) Clearing negative. (g) Intensifying negative. (h) Clearing and cutting negative with cyanide. (i) Final intensification.
12. Etching, zinc, half-tone: (a) Flat etch. (b) Staging and etching. (c) Trial proof. (d) Preparing and mixing etching solutions.	27. Retouching: (a) Spotting. (b) Extensive corner lines. (c) Burnishing.	20. Photographing, half-tone, special (reproduction of pencil drawings, etchings, and steel or copper-plate prints): (a) Grouping of copy for half-tone reproduction.
3. Beveling, plain: (a) Adjusting mechanism. (b) Altering plate with line gauge and clamping down. (c) Beveling, leaving plain border. (d) Cutting gravel or white line. (e) Beveling, leaving black and white line border.	6. Cut outs: (a) Tooling outline. (b) Routing. (c) Trimming.	18. Mounting or grouping original copy: (a) Grouping of copy for half-tone reproduction.
4. Beveling, special (linings): (a) Adjusting mechanism. (b) Altering plate with line gauge. (c) Cutting black and white lines in multiple or extended lines. (d) Making raised border line by barring up. (e) Cutting raised line down to printing surface and graving a white line.	7. Cutting circles or ovals: (a) Cutting cardboard mat to size. (b) Trimming negative by mat. (c) Tooling outline.	22. Photographing, half-tone, special (reproduction of pencil drawings, etchings, and steel or copper-plate prints): (a) Grouping of copy for half-tone reproduction.
16. Finishing, line: (a) Spotting. (b) Trimming. (c) Repairing. (d) Correcting.	31. Vignetting: (a) Outlining. (b) Tooling. (c) Rebluing. (d) Routing. (e) Trimming. (f) Underlaying.	105. Mixing and preparing chemicals.
25. Proofing: (a) Black and white.	105. Mixing and preparing chemicals.	105. Mixing and preparing chemicals.
100. Mixing and preparing chemicals.	105. Mixing and preparing chemicals.	105. Mixing and preparing chemicals.
JUNIOR CRAFTSMAN ONE YEAR		
This period shall be devoted to a review of the work of apprenticeship. In addition, elementary work shall be done on the following specialties should there be sufficient work to afford the opportunity and the junior craftsmen have demonstrated more than average proficiency in all of his previous work.		
20. Photographing, dry-plate work: (a) Interior views. (b) Outside views. (c) Copying prints, enlargement or reduction. (d) Preparing copy from colored positive or objects for half-tone reproduction. (e) Making transparencies. (f) Mounting prints. (g) Preparing and mixing chemicals. (h) Mounting or grouping original copy. (i) Grouping or arranging objects for half-tone reproduction, color work, and dry-plate photography.	19. Photographing, color operating; making color record negatives: (a) Color sensitizing dry plates. (b) Focusing color copy. (c) Exposing color sensitized plates through color filters. (d) Developing record negatives. (e) Clearing and fixing record negatives. (f) Intensifying record negatives. (g) Reducing record negatives. (h) Printing transparencies from record negatives. (i) Developing transparencies. (j) Clearing and fixing transparencies. (k) Intensifying transparencies. (l) Reducing transparencies. (m) Preparing dye solutions for color sensitizing. (n) Preparing and mixing chemicals.	15. Finishing, half-tone, color: (a) Spotting. (b) Extending corner lines. (c) Burnishing. (d) Outlining for cut outs. (e) Trimming cut outs. (f) Light-lighting.
18. Mounting or grouping original copy: (a) Grouping or arranging objects for half-tone reproduction, color work, and dry-plate photography.	11. Etching, half-tone, color: (a) Flat etch. (b) Trial proof. (c) Staging and etching. (d) Preparing and mixing etching solutions.	26. Proofing: (a) Color. 28. Drawing (illustrating, designing, lettering): (a) Pen. (b) Wash. (c) Air brush. (d) Colors. (e) Preparing black and white copy for color reproductions. (f) Coloring transparencies.
27. Retouching: (a) Copy. (b) Negatives.	105. Mixing and preparing chemicals.	105. Mixing and preparing chemicals.

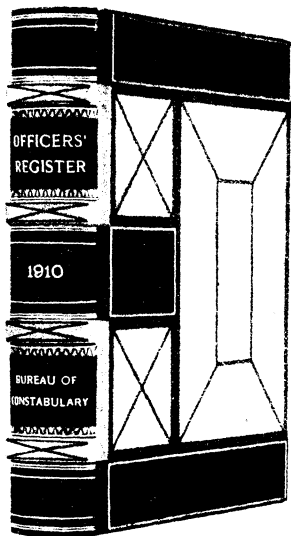
REPRODUCTIONS OF BOOKBINDINGS IN NATURAL COLORS



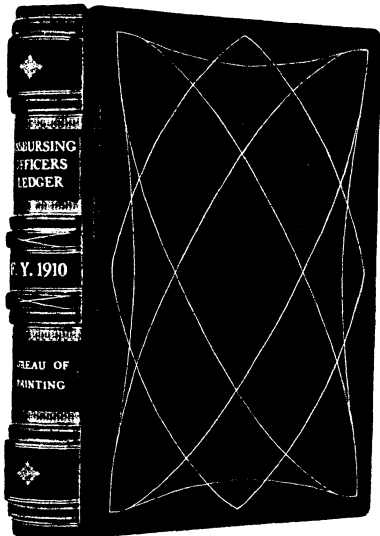
FULL TEXODERM



HALF-BOUND RUSSIA, MARBLE PAPER SIDES

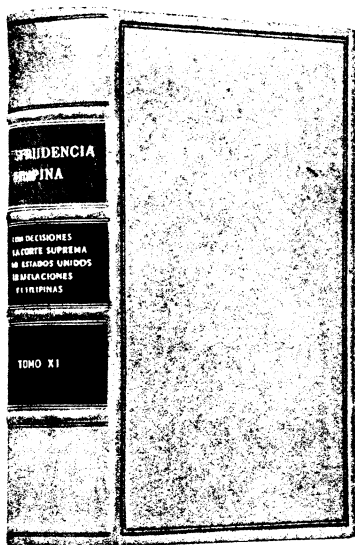


FULL BOUND, RUSSIA ENDS AND BANDS

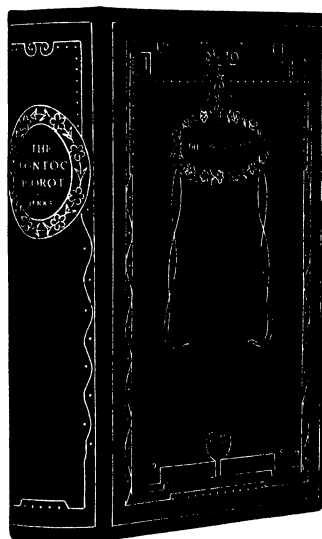


FULL-BOUND RUSSIA, EXTRA HUBS

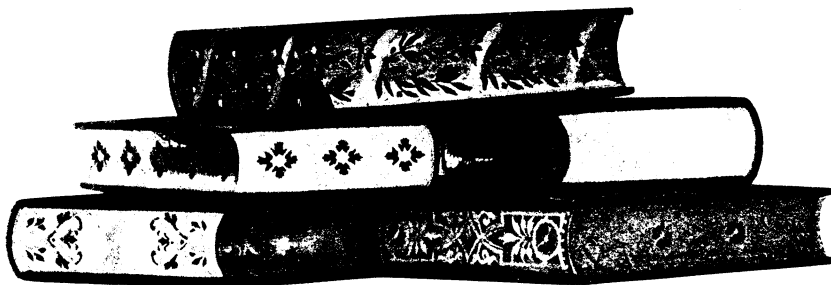
REPRODUCTIONS OF BOOKBINDINGS IN NATURAL COLORS



FULL SHEEP



FULL LEVANT MOROCCO,
HAND TOOLED



GILT-EDGING, ORNAMENTAL DESIGNS

THESE TWO PAGES OF COLORED PLATES WERE REPRODUCED DIRECT FROM THE OBJECTS BY THE THREE AND FOUR COLOR PROCESS OF ENGRAVING. THE PLATES WERE ENGRAVED AND PRINTED BY APPRENTICES AND GRADUATE APPRENTICES OF THE BUREAU OF PRINTING, UNDER THE SUPERVISION OF AMERICAN CRAFTSMEN INSTRUCTORS. THE SAME CLASS OF WORKMEN, UNDER THE SAME WORKING CONDITIONS, BOUND THE BOOKS WHICH ARE THE SUBJECTS OF THE ILLUSTRATIONS

PLATE III

WORKMAN'S DAILY TIME TICKET

Date..... I certify on my official oath that the time noted on this ticket is correct.

PHOTO-ENGRAVING
DIVISIONRate of pay, ₱..... Name.....
Craftsman, Junior Craftsman, Apprentice, Helper.

REGULAR TIME

A. M.					P. M.						
Work Order Number.	Time.	Part	Specialty Number; also Quantity when Ordered.	Office Use.		Work Order Number.	Time.	Part	Specialty Number; also Quantity when Ordered.	Office Use.	
				Hand.	Mach.					Hand.	Mach.
	8.00						1.00				
	8.06	1					1.06	41			
	8.12	2					1.12	42			
	8.18	3					1.18	43			
	8.24	4					1.24	44			
	8.30	5					1.30	45			
	8.36	6					1.36	46			
	8.42	7					1.42	47			
	8.48	8					1.48	48			
	8.54	9					1.54	49			
	9.00	10					2.00	50			
	9.06	11					2.06	51			
	9.12	12					2.12	52			
	9.18	13					2.18	53			
	9.24	14					2.24	54			
	9.30	15					2.30	55			
	9.36	16					2.36	56			
	9.42	17					2.42	57			
	9.48	18					2.48	58			
	9.54	19					2.54	59			
	10.00	20					3.00	60			
	10.06	21					3.06	61			
	10.12	22					3.12	62			
	10.18	23					3.18	63			
	10.24	24					3.24	64			
	10.30	25					3.30	65			
	10.36	26					3.36	66			
	10.42	27					3.42	67			
	10.48	28					3.48	68			
	10.54	29					3.54	69			
	11.00	30					4.00	70			
	11.06	31									
	11.12	32									
	11.18	33									
	11.24	34									
	11.30	35									
	11.36	36									
	11.42	37									
	11.48	38									
	11.54	39									
	12.00	40									

O. K. For the Foreman

ACCURATE TIME MUST BE KEPT.

(SEE OTHER SIDE FOR NUMBERED SPECIALTIES AND INSTRUCTIONS)

Upon beginning work, the employee enters the work-order number and the specialty number in the respective columns. If the time of beginning is 8 o'clock, the work-order and specialty numbers are entered opposite the first part or period—8.06 o'clock. Each period consists of six minutes, and the time printed is the last minute of the period. Should work on a different specialty on the same work order be started at 8.30 o'clock, then that specialty number is entered in the space directly opposite 8.36. One entry of a work-order number is sufficient, and this entry is made at the time of beginning a new work order. It is not necessary to mark off the time on this ticket, as the form has been ruled to obviate such work. All numbers must be carefully verified.

PHOTO-ENGRAVING DIVISION
WORKMAN'S DAILY TIME TICKET

SPECIALTIES

Chargeable

1. Alterations.
2. Anchoring.
3. Beveling, plain.
4. Beveling, special (lining).
5. Blocking or mounting.
6. Cutouts.
7. Cutting circles or ovals.
8. Drawing (illustrating, designing, lettering).
9. Etching, copper, half-tone.
10. Etching, copper, line.
11. Etching, half-tone, color.
12. Etching, zinc, half-tone.
13. Etching, zinc, line.
14. Finishing, half-tone.
15. Finishing, half-tone, color.
16. Finishing, line.
17. Mortising.
18. Mounting or grouping original copy.
19. Photographing, color operating; making color record negatives.
20. Photographing, dry-plate work.
21. Photographing, half-tone.
22. Photographing, half-tone, special (reproduction of pencildrawings, etchings, and steel or copperplate prints).

Chargeable—Continued

23. Photographing, line.
24. Printing negatives.
25. Proofing.
26. Reengraving.
27. Retouching.
28. Routing.
29. Stripping negatives.
30. Transparencies.
31. Vignetting.
32. Zinc overlays.

Nonchargeable

101. Cleaning machinery.
102. Corrections, office.
103. Instructing apprentices.
104. Laborer.
105. Mixing and preparing chemicals.
106. Practice work.
107. Supervising, inspecting finished product, and similar work.
108. Waiting for repairs (write name of machine).
109. Waiting for work (will not be allowed unless employee reports immediately to the foreman).

DESCRIPTION OF WORKMAN'S DAILY TIME TICKET

Arrangement.—The face of the ticket contains a complete record of the day's work, as well as all data pertaining to the compensation and status of the workman. This information is valuable to the instructor in determining the rating for "quantity" and to the inspector or computer in cases of excessive time. It enables the abstractor to complete and total all entries at a glance.

Sexagesimal notation.—Calculations are greatly simplified by dividing the time into six-minute periods, or the hour into tenths. The abstractor is further aided by reason of the heavy line under each fifth period, which divides the workday into half-hour periods.

Advantages of the printed horizontal lines.—The original Bureau of Printing time tickets were printed without horizontal lines under the different periods. These were drawn by the workman upon the completion of each work order or specialty. This work was not only objectionable to the workman, but the completed ticket, particularly for small work, was in many cases so badly accomplished and soiled as to greatly increase the work of abstracting. The elimination of this work through the printing of the horizontal lines has reduced the number of entries to the minimum.

The "Part" column.—The "Part" column enables the abstractor to determine at a glance how many tenths of an hour are consumed. The value of this time for any wage is quickly obtained by referring to a prepared table of computations, with the different rates of pay as headings of columns and the parts from 1 up as a guide column.

How to obtain quantity.—It is necessary at times to know the quantity of production. Provision is made for such information in the "Specialty" column.

Specialties, and how numbered.—Plate I shows the manner in which specialties are numbered. As all data required for abstracting purposes are shown on the face of the ticket, this system enables one Filipino clerk to abstract the daily time tickets of several hundred workmen.

(Owing to limited space, only a reduction of the front of the time ticket is shown on the opposite page. The actual size of the ticket is 7 by 8½ inches. The reverse sides of originals contain detailed instructions relative to making out the ticket, as well as a complete list of specialties of each mechanical division. Plates I, II, and III refer to photo-engraving operations.)

How chargeable time is gathered.—Chargeable hours only are gathered unless information is desired on a nonchargeable specialty. The total of nonchargeable hours is obtained by subtracting the gathered chargeable hours from the pay-roll hours.

Miscellaneous advantages of a time ticket.—It constitutes the most accurate record of a workman's efficiency.

It is the only means of accurately determining the cost of the individual job.

It is indispensable in formulating a scale of charges, for without reliable data as to costs the fixing of charges would be mere guesswork.

It provides accurate information relative to the status of a work order.

able to classify and make allowances for the idiosyncrasies of the boy in his charge. He must be able to determine, at the expiration of the first class period of apprenticeship, whether his charge is fitted to continue at the trade to which he is assigned. Inability to comprehend mechanical details, continued indifference, failure to make an honest effort to take advantage of the craftsman's instructions, and perfunctory performance by listless "time servers" are carefully noted. Such delinquents are separated from the service to make room for applicants who will show more interest in their work.

Strict discipline is maintained at all times. Upon entrance each apprentice is given a pamphlet containing the office rules. Infractions of the rules and cases of carelessness and insubordination are made a matter of record. Verbal reprimands by

craftsmen instructors are not permitted. Adverse reports in the form of letters of reprimand are sent to the offending employees, who are given opportunity to make statements in their own behalf. Adverse reports are also made in cases of errors which are manifestly due to carelessness or inattention. These reports are filed, and when the employee's efficiency record is compiled a deduction is made for each. Letters of commendation are given to apprentices for exceptionally meritorious work.

Instruction in the operation and the ordinary adjustment of machinery is imparted by the immediate instructor, while the technical knowledge of a machine and its parts is acquired from the chief machinist. All power-driven machinery of the Bureau of Printing is inspected three times a year, according to a dated schedule. Two of these inspections are made for

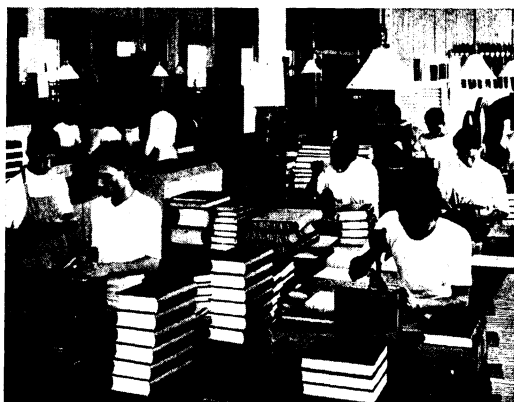


A Stage of Binding Called Forwarding

the purpose of reporting on the condition in which machinery is cared for by the operator, and at the third inspection the machine is completely overhauled for purposes of instruction.

The Bureau of Printing Desk Book is the only technical publication used in connection with apprentice instruction. It has been indorsed by American and foreign publishers and is recognized as a standard work of reference in the printing trades.

For the information of all employees—apprentices, junior craftsmen, and craftsmen—a comprehensive list of technical



The Difficult Process of Finishing

terms and definitions peculiar to each trade is posted in a conspicuous place and is accessible at all times. With these definitions, printed instructions are also provided relative to the performance of the more intricate operations of each trade.

Each apprentice is orally examined by his foreman as to his knowledge of such terms and definitions, and none is promoted who does not possess information to the extent of securing a passable rating.

Apprentices are required to attend a public night school in English unless excused by the Director of Printing. Excuses are granted in those cases in which apprentices may wish to receive instruction in a private school or from a private tutor, when they have completed the intermediate course of study prescribed by the Bureau of Education, or when they satisfactorily pass a test in English. All apprentices who have been excused from night-school attendance are required to continue the reading of standard English literature and to render a monthly report thereof, in writing, to the Director of the Bureau of Printing.

Where the art of printing remains undeveloped, the common people exist in a condition of serfdom, for their ignorance, prejudice, and superstition require the placing of their political destinies in the hands of the few

After an employee has assumed the duties of a craftsman, additional responsibilities are placed upon him and every effort is made to inspire him with the confidence necessary to enable him to act in a minor executive capacity, such as assistant to the foreman or in charge of a group of workmen.

Apprentices are selected for appointment from lists of eligibles certified by the Bureau of Civil Service of the Philippine Government. In making selections, physical as well as educational qualifications are taken into consideration. The educational test is a simple one, given in either English or Spanish, and is waived in the case of graduates of intermediate and high schools. Those taking the Spanish examination must possess at least a slight knowledge of English. The examination is known as the third grade, and comprises the following subjects and weights: Spelling, 20; arithmetic, 20; letter writing, 20; penmanship, 20; copying from plain copy, 20; total weights, 100. To be eligible for appointment, applicants must obtain an average rating of 70 or more. Minimum and maximum age limits are 15 and 20 years, respectively. Each ap-



Electrotyping and Stereotyping Division

pointee must be in good physical condition and must weigh not less than 46 kilos (112 pounds) and be at least 155 centimeters (5 feet 1 inch) in height. His general fitness for an indoor occupation must be unquestioned.

The product of the printing press is indispensable to every literate member of the human family. Without it, the world would stagnate, history would become tradition, and posterity would be robbed of its inheritance

As the civil-service examination for apprentices is the same for all branches of the printing trades, the matter of the apprentice's assignment is influenced to some extent by his physical qualifications, although his wishes are given consideration if he indicates a preference and is deemed otherwise qualified for the work.

Apprentices are rated on quantity of work; quality of work; aptitude and adaptability; habits, character, and conduct; and attendance and physical condition. Promotions from one class to another are made when the apprentice has qualified in all the specialties included in his current class. The recommendation of the foreman is accepted as proof of fitness, being based on daily observation of the quantity and quality of the work of each apprentice, which renders further examination unnecessary. The Bureau's daily time ticket (Plate III) is also of much value in determining the rating for quantity. The apprentice must have completed the full period of six months, as the class period is extended in an amount of time equal to that which may have been lost for any cause whatsoever.



Finishing Half-tones and Etchings

The printing law of the Philippine Islands provides that native apprentices, from the date of their entrance into the third year of apprenticeship, for each year of honest, faithful, satisfactory, and continuous service in the Bureau of Printing,



Current Government Publications

shall be entitled to receive, at the end of the next succeeding year of honest, faithful, satisfactory, and continuous service, extra compensation as follows: Twenty centavos per diem for each full day of actual service rendered at a daily wage of ₱1.20 or more but less than ₱2.40; 40 centavos per diem for each full day of actual service rendered at a daily wage of ₱2.40 or more but less than ₱3.20; and 60 centavos per diem for each full day of actual service rendered at a daily wage of ₱3.20 or more. An apprentice separated from the Bureau of Printing after such extra compensation has been earned and before it becomes due shall not be entitled to receive any part thereof unless such separation shall be on account of lack of work, permanent disability, or death, in which event such apprentice, or his estate in case of death, may, on the recommendation of the Director of Printing, approved by the Secretary of Public Instruction, receive the extra compensation accumulated at the time of separation. The law further provides

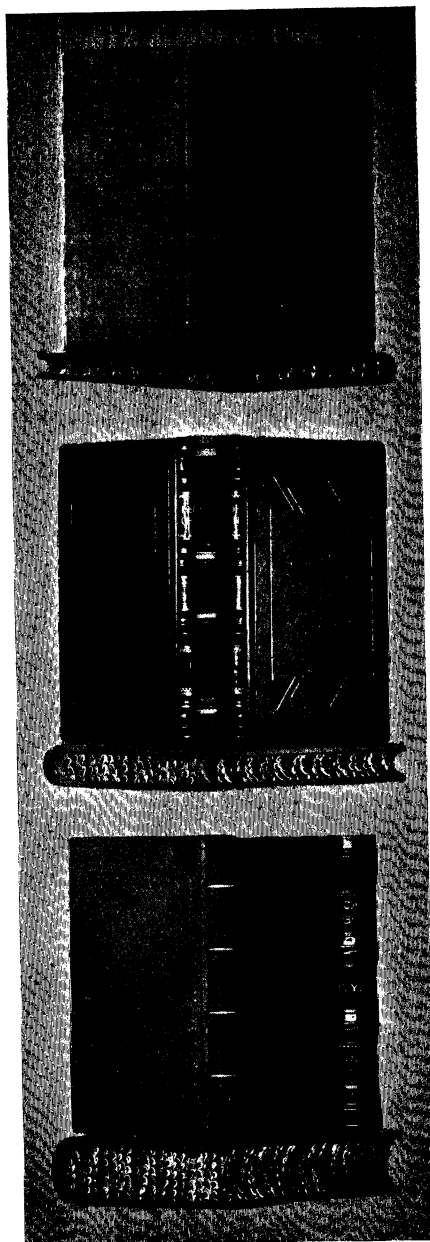
that the services of such apprentices shall be deemed continuous until such apprentices are definitely separated from service in the Bureau of Printing.

The per diem compensation and bonus of apprentices, junior craftsmen, and craftsmen are as follows:

Designation.	Wages.	Bonus.
Class 6.....	₱0.80	None.
Class 5.....	.90	None.
Class 4.....	1.00	None.
Class 3.....	1.20	None.
Class 2.....	1.40	₱0.20
Class 1.....	1.80	.20
Junior craftsmen.....	2.25	.20
Craftsmen.....	2.50	.40

It will be noted that no extra compensation (bonus) is allowed until the completion of the second year of apprenticeship.

The Bureau of Printing has been a vocational school of the best kind for the Filipinos who have entered its service. They have learned the value of continued and earnest application to one of the most useful of arts, and to seek for superiority and excellence in their work. While the Bureau has been indispensable in the effective performance of the work of the Government, yet it has



Various Kinds of Blank Books

had even greater value as a training school for the Filipinos. It has been effective in improving the art of printing throughout the Islands and has also been a most useful instrumentality in extending the use of the English language through its dissemination by the intelligent and progressive young Filipinos who go from its service to engage in enterprises of their own or as the employees of others.

The success which has attended the technical training of apprentices in the Bureau of Printing has demonstrated beyond peradventure that the application of *system* to vocational training will produce efficient workmen in *any* of the skilled trades.

The Bureau of Printing was established in 1901 upon the recommendation of Hon. W. H. Taft, Governor of the Philippine Islands. Hon. Elihu Root, Secretary of War, selected Mr. John S. Leech, of Illinois, a division chief in the Government Printing Office, to prepare complete specifications for a plant equipped for every operation known to letterpress printing. These were presented by Mr. Leech to the War Department within three months, when the first shipments of equipment and supplies were made. The continuity of his Philippine service has been interrupted but once, when, in 1908, he was transferred by the President of the United States to effect the reorganization of the Government Printing Office at Washington. In that institution he substituted modern business procedure for obsolete methods and provided, for the first time in the history of that office, a uniform scale of printing charges which admitted of but one interpretation and placed all participating requisitioners on an equal basis.

The instructions to the Philippine Public Printer included not only the installation of a plant to handle the Government work, but also required the instruction of Filipinos in the printing trades. This has been accomplished through the system herein described, and, of the various governmental activities with which he has been identified during twenty-four years' service under the American Government, Director Leech considers the Bureau of Printing system of apprentice instruction his most effective work.

NOTES ON VOCATIONAL GUIDANCE.

W. W. MARQUARDT, Superintendent, Philippine School of Arts and Trades.

VOCATIONAL guidance is one of the newest branches of development in the public educational system of the United States. It had its origin in the attempts at placing boys and girls in suitable vocations upon leaving school. The pendulum, however, has swung from the extreme of concentrating activities solely at the close of school life to the mean of doing everything possible during school life toward leading the pupils intelligently to plan their future careers, and in so far as possible to better the conditions under which they must enter their life work.

The work in vocational guidance has probably reached its highest development in Boston through the efforts and leadership of Mr. Meyer Bloomfield, Director of the Vocation Bureau of Boston. This bureau was the pioneer in the field. Closely associated with it are three other organizations which carry on special lines of work in vocational guidance as a part of their various activities. These three organizations are the Boston Home and School Association, The Girls' Trade Educational League, and The Women's Municipal League. In addition to these three organizations, there is a committee on vocational direction of the Boston School Board which confines its work of guidance within the school before the pupils leave the grammar grades. These various bodies work in close coöperation and cover the field very thoroughly.

The Vocation Bureau is not conducted as an employment office. Its work consists in gathering information concerning the various occupations in which the school children of Boston are apt to enter. This information is put into such form that it may be of the greatest possible assistance in guiding pupils and their parents in the choice of their future careers.

In addition to the compilation and dissemination of such occupational information, the Bureau conducts a training school for teachers and school officials serving as vocational counsellors.

Two expert investigators are employed in studying the different occupations. They ascertain what educational attainments are required for entrance, and what physical and personal

requirements are necessary. They learn the opportunities for advancement in the occupation, its nature, the divisions of work involved in it, and the physical conditions of the same. They ascertain and put into accessible form the conditions upon which increase in pay depend, the opportunities for advancement, and the minimum, average, and maximum pay of those in the occupation. These facts are ascertained by visits to the firms, shops, and factories, by consultation with employers and employees, and also by the study of all literature bearing upon the subject. When the above information has been obtained for any one vocation, it is put into bulletin form for the use of pupils, parents, and vocational counsellors.

The second line of work consists in doing everything possible toward securing proper training and education for the pupils before they leave school. Efforts along this line result in the prolonging of the school life and also in the placing of pupils in such schools, or in such positions, as will best train them for the work which they plan to take up. These results are obtained by personal conferences with parents, teachers, advisers, and pupils, and by public lectures relating to the work.

The third line of activity consists in the systematic organization of all groups engaged in the work of vocational guidance and in the training of vocational counsellors for those who are preparing themselves for such work. One hundred seventeen teachers in the Boston schools have been appointed as counsellors. They meet twice a month and listen to the lectures given by the Director and to addresses upon various occupations by people actually engaged in the occupation upon which they lecture. The work of training vocational counsellors has developed to such a point that the Harvard Summer School, at the 1911 session, offered a course of ten lectures upon this subject.

The fourth line of activity is that of giving direct advice to all who have a vocational problem or difficulty. This is carried on informally in consultation, and every effort is made to secure the active coöperation of all who can render service which this work of vocational guidance requires.

The Committee on Vocational Direction of the Boston School Board was organized in June, 1909, and consists of six members of the teaching force. This Committee at first held mass meetings to interest the teachers and appointed a vocational counsellor or committee for each school. Lectures and addresses were then arranged for the purpose of interesting parents as well as children. The appointment of a vocational

counsellor for each school has been of real service. Grammar school graduates have been helped to secure admission into the specialized high schools, selected with reference to the graduate's plans for his life work. Vocational records were made of all graduates of the grammar school and these records were kept on cards throughout the balance of the school course. The keeping of these cards was of considerable value in the registering of certain data, and of still greater value in the effect which the process of their compilation had upon the mental attitude of pupil, teacher, and parent.

The Boston Home and School Association is a private organization. It aims to secure close coöperation between parent and teacher in everything pertaining to the child's welfare.

In order to obtain information as to the vocational aspirations of parents for their children, and also to start many parents along a line of intelligent planning for the future of their children, the following questions have been sent out to the parents of children in various schools:

Questionnaire for parents of high school pupils:

1. Are you going to send your boy (or girl) to college?
2. If so, what college, and why?
3. Have you in view any occupation for which you wish to train your boy (or girl)?
4. What occupation do you think your boy (or girl) is most adapted to? Has your boy (or girl) received any training in preparation for this occupation?

Questionnaire for parents of children in the eighth grade:

1. Are you intending to send your boy (or girl) to high school?
2. If so, what high school, and why?
3. Have you in view any occupation for which you wish to train your boy (or girl)?
4. What occupation do you think your boy (or girl) is best adapted to? Has your boy (or girl) received any training in preparation for this occupation?

When the above information has been obtained, lectures and conferences will be organized so as to be of the greatest possible assistance to the parents.

The Girls' Trade Educational League of Boston secures and disseminates information similar to that compiled by the Vocation Bureau. It also conducts an office not only to find work for girls, but more especially to advise them as to what particular work they are best fitted for. After placing a girl, the League does not feel that its work is ended, but endeavors to keep in touch

with her for some time in order to make sure that she is finally placed in an employment to which she is adapted. By these means of activity the league hopes to lessen the number of present misfits and to improve the conditions of girl wage-earners.

The Women's Municipal League of Boston is following a different outline of work from any of the organizations previously mentioned. In 1909 its Department of Education appointed a committee to study the opportunities presented for vocational training in and around Boston and to make the results of this study easily accessible to all interested in giving vocational counsel. Paid investigators and students from various colleges have studied the educational agencies of Boston. So far four charts have been prepared and distributed widely in Boston and its vicinity. They have been placed in schools and in factories and serve the double purpose of showing those who wish special training where it may be obtained, and of suggesting to those who never considered the subject the desirability of seeking such a training.

Chart No. 1 includes schools which give elementary industrial training. It contains information relative to the ages of students, the industry taught, supplementary work given, special features, requirements for admission, the proportion of time given to industrial work, academic subjects and drawing, and the length of the session.

Chart No. 2 contains similar information concerning schools that offer advanced industrial training.

Chart No. 3 pertains to public and philanthropic schools which offer commercial training.

Chart No. 4 sets forth organized opportunities for the physically handicapped. It is intended to show where the blind, the crippled, and the deaf may secure training that will take away their handicaps and give them chances to become efficient citizens.

Charts are also being prepared covering vocational training in settlements, memorials and guilds, in professional schools, in schools of fine arts, and in apprenticeship schools.

Although Boston has probably done more extensive and intensive work along the lines of vocational guidance than any other city in the United States, yet the interest in this matter is not confined to that city. In New York, the High School Teachers' Association has taken the lead in this work. By 1908 there was a vocational adviser in each high school, whose work was purely voluntary and was carried on in addition to his

regular duties. Pamphlets similar to those prepared in Boston are used throughout the high school course in arousing the students' interest in this matter. In some of the high schools pupils are required to prepare regular plans for their future careers. One of the plans outlined for such work is as follows:

SUGGESTIONS.

1. Let the student select an occupation, find some acquaintance engaged in that work, secure an interview, and write out the results of the interview as if for a newspaper. It will add to the interest if several members of the class have the same topic.

2. Let the student select an occupation for himself and plan for himself a career.

3. Let suitable questions for the debating society be so framed that pupils will discuss the opportunities in one line of work as against the opportunities in another; the requirements for success in one line, as against the requirements in another; the rewards of a profession as against the possible returns from a trade or a business.

4. Let the pupils select a line of work in which they are interested and write a review of one of the books of reference dealing with that occupation.

5. Let the student select some particular line in which he may be interested, and write an answer to some newspaper advertisement for help in that line.

A PLAN FOR A CAREER.

In writing a plan for a career a student should set forth:

I. (a) His preferences; (b) the expressed wishes of his parents and friends in regard to his future.

II. (a) His own reasons for his choice; (b) reasons in favor of or against his choice which were gleaned from books and magazine articles; (c) arguments in favor of or against his choice which were advanced by parents and friends who were consulted.

III. His personal characteristics by the aid of which he hopes to win success in his chosen vocation.

IV. The legal requirements for admission to the practice of the chosen trade or profession.

V. The schools to be attended to meet these requirements and the estimated time and expense involved in preparation.

VI. The possible rewards as stated in the authorities which were consulted.

Information has been disseminated throughout the elementary schools in respect to the money value of education. Comparisons are made between the average earnings of unskilled labor with those of skilled workmen and of professional and business men. Considerable work is done in placing students who are obliged to leave school, although this feature is considered somewhat as a side issue. The larger number of pupils do not so much need help in securing appointments as advice in selecting

their work. Close touch is kept with students who have been placed so that they may be counselled and helped in case of difficulty and may be kept informed of opportunities for adding to their education or vocational equipment.

The work of educational guidance has spread all over the United States. In 1910 there was a national conference on this subject, which was attended by delegates from thirty-five cities. In the last meeting of the National Educational Association a generous proportion of the time was devoted to the discussion of this subject, and some of the most important resolutions passed by that body related to this work.

In an address on Vocational Guidance, given by Mr. Meyer Bloomfield before the National Society for the Study of Education, he stated that the Vocation Bureau in Boston, the first of the kind in the country, was organized "to lessen the social waste, to furnish necessary information about various occupations and their advantages and disadvantages and the training necessary for efficiency in them, to broaden the range of choice and to deepen the 'life career motive' in education and employment." This comprehensive summary of the aim of the Boston Vocation Bureau epitomizes to a considerable extent the aims of the Bureau of Education in the Philippines.

Owing to the present lack of funds and to the immediate necessity of furnishing primary education throughout the Philippines, it will be impossible for many years for the Bureau to take up the work of vocational guidance in a manner as thorough as that of either Boston or New York. The differences in local conditions between the large cities of the United States and those prevailing in this country also tend to render impossible the following out of all details of these plans. Personal and individual efforts have already been made here along these lines. Teachers in all branches of instruction have been of inestimable assistance in the giving of vocational advice to parents and pupils. Official action has been taken by the Bureau in disseminating pertinent information and in offering practical training in household industries, domestic science, agriculture, mechanical trades, and commercial pursuits. Exceptional opportunities have been given for the selection and training of teachers, nurses, and surveyors. The Bureau has also done valuable work in making public the opportunities offered for training in the Bureau of Printing and in the Telegraphic Department of the Bureau of Posts.

It is felt, however, that the time has now come when more

emphasis should be placed upon this line of work. The first step in the collecting of information relative to the various occupations open to the Filipino youth has been taken. Information such as that prepared by the Vocation Bureau of Boston and the High School Teachers' Association of New York is being collected with reference to teaching, seamanship, nursing, telegraph operating, surveying, machine shop practice, wood working, cigar making, and other occupations. The compiling and editing of this information so that it may be set forth in a convenient and accessible form, and may at the same time be reliable and accurate, is a work of considerable magnitude. As rapidly as these articles can be prepared they will be published in *THE PHILIPPINE CRAFTSMAN* and reprints will later be issued for use in all schools. These will provide a source of information which is open at present to but few teachers, fewer pupils, and still fewer parents. These pamphlets, when issued in a final form, will be used as supplementary reading and as material for work in English. They will be of inestimable value in leading parents intelligently to plan careers for their children.

It will necessarily be some time before these pamphlets can be issued. In the meanwhile valuable and helpful assistance may be given to pupils by insisting upon the development in the English classes of an outline the same as or similar to the one given in this article as used in the New York high schools.

The attention and interest of teachers will be directed to the subject of vocational guidance at the Teachers' Vacation Assembly in Baguio next season. An article on this matter will also be prepared for use in civico-educational lectures.

The field of vocational guidance is a large one and the opportunities for distinctive service are unlimited. It is not sufficient for a teacher to spend all of his energy in providing a child with an education. In order to assure that the education given to a child will result in the greatest possible benefit to him, it is essential that the minds of both parent and child be directed in an intelligent manner to the consideration of the child's future. Such work properly carried on will reduce in great measure the number of people engaged in work for which they have no liking and to which they are adapted neither by nature nor by training. In order to insure profitable returns from the expenditure of Government funds in the training of pupils, it is imperatively necessary that close attention be paid to the use to which that training is put. There is no work connected with our whole system of education which will bring a larger percentage of profitable results than efforts to give the greatest

possible amount of vocational guidance to both pupils and parents.

NOTE.—The information contained in this article concerning the status of vocational guidance in the United States has been digested from the Twenty-fifth Annual Report of the Commissioner of Labor for 1910, on Industrial Education. The attention of teachers and others desiring fuller information upon this subject is directed to this report and to the pamphlets published by the Vocation Bureau of Boston and by the High School Teachers' Association of New York.

The man who is fitted to take care of himself in all of the conditions in which he may be placed is, in a very important sense, an educated man. The savage who understands the habits of animals, who is a good hunter and fisher, is a man of education, taking into consideration his circumstances. The graduate of a university who cannot take care of himself—no matter how much he may have studied—is NOT AN EDUCATED MAN.—ROBERT G. INGERSOLL.

o o o

The American School Board Journal for September starts off with a full-page cartoon saying that "vocational education needs not only school boards but also advisory boards composed of practical men in the trades." Considerable space is given to the subjects of school architecture and city play-grounds while the address delivered before the 1912 National Education Association by C. A. Proner, Secretary of the National Society for the Promotion of Industrial Education on "Facilities for Industrial Education" is published in full.

o o o

The Republic of Uruguay is making rather remarkable progress in primary education. Six years ago Dr. A. J. Perez, in charge of the service, aroused by the backwardness of the country in this respect, entered upon a campaign of education. The result is that the Republic has increased its appropriations for the aid of schools; normal training has been greatly improved; and the efficiency of the local inspectors has been greatly increased.

THE DOMESTIC SCIENCE COURSE FOR SCHOLARSHIP TEACHERS IN THE PHILIPPINE NORMAL SCHOOL.

A. W. CAIN, Acting Superintendent, Philippine Normal School.

SCHOLARSHIP teachers generally attend the Normal School for only one year. Each of these teachers must have had at least two years' experience in teaching; as a matter of fact nearly all of them have been in the teaching service for several years. The appointment to a scholarship simply means a year's vacation to be spent in study at the Normal School. The teachers who receive scholarships may follow any one or



Fig. 1. The ordinary native stove found in all sections of the Islands.

Fig. 2. A modified type which is plentiful in Cavite and is found in Mindoro and Tarlac.

Plate I.

more of twelve distinct lines of industrial work. It is the purpose of this article to investigate the benefits that accrue to those who select their year's work in the department of domestic science.

In conducting this study, it has been found necessary to determine the previous preparation of candidates for the course,

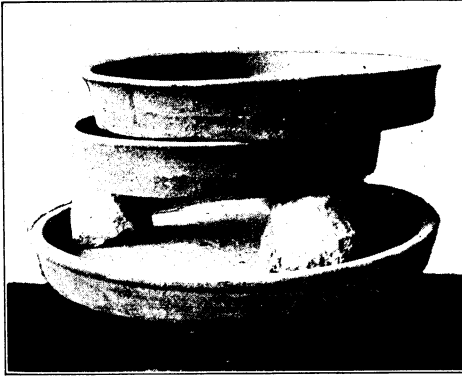


Plate II. A clay oven, used for various kinds of baking.

as well as the kind and quality of service rendered after leaving the Normal School. Questionnaires were sent out to the several school divisions for each of the scholarship teachers who has pursued the course in housekeeping during the past three years. Disregarding those who have left the service or who have been assigned to academic work, twenty-

four replies were received from various sections of the Islands. The replies indicate that eleven of the girls had never received a day's instruction in domestic science before coming to the Normal School; nine of the remainder had studied the subject upon an average of four months each, while each of the remaining four had had at least a year's work. With this preparation, or lack of preparation, they entered upon the course of study, which is briefly as follows:

COOKING.

1. Names and uses of things in the kitchen: The course opens with the teacher of cooking and a class of about twelve or fifteen pupils handling familiar utensils in the kitchen, discussing their uses and familiarizing themselves with the English terms for the several articles of equipment and their uses. These lessons are continued until the students have a fair knowledge of the working implements and terminology of the course.

2. Dishwashing: Hot water, the use of soap, rinsing, drying. The class takes weekly turns with other domestic science classes in washing the dishes from the midday lunch.

3. Sweeping and dusting: Where to begin, the strokes in sweeping, disposing of dust rather than moving it to another place in the house, care of brooms and dust cloths.



Plate III. A native vessel for cooking meat.

It is also used as a jar or crock for storing away various foods, such as jellies and preserves.

4. Kitchen linen: Different cloths, uses of same, laundering, mending, how to keep sanitary.

5. Soap making: Recipes, ingredients, process and cause explained, practice in making and testing soap.

6. Measuring: All the common measures with their relations to each other. Practical measuring.

7. Water: Its use for cleansing, hard water, soft water, water for drinking (boiled, artesian, distilled), the uses of water in the body.

8. Care of the kitchen utensils: Stoves, cooking vessels, dishes, cups, spoons, knives and forks, garbage pails.

9. Classification of foods: Carbohydrates, proteids, fats, minerals. All of the leading articles of food are considered with reference to the percentages contained of each of these elements.

10. A study of foods with reference to the purpose each serves in the body: cereals, vegetables, fruits, sugar, minerals, vegetable and animal fats, meat, eggs, beverages.

11. Ways of cooking food: Boiling, stewing, baking, roasting, broiling, frying, sauteing, pan-broiling, pan-baking, fricasseeing.

12. Cooking lessons embracing the following: The boiling of water; rice cooked in native pots, double boiler, and fireless cooker; corn, corn meal mush; fish balls; pork and greens; string beans; mongo, mongo and rice; squash; camotes, boiled, baked, or fried; eggplant, okra, onion, radish; salads and dressing; sandwiches; eggs in different styles; rice pudding, camote pudding and squash pudding; camote cake; custards; corn bread, muffins, biscuits, yeast bread, rolls, brown bread; native meats; fish prepared in various ways; stews; peanut, cocoanut, and fruit cookies; jelly roll, plain cake, tea cake, candies; coffee, chocolate, and lemonade.

13. Personal hygiene: Care of the body. Special lessons for girls.

14. The care of the sick: Ventilation, cleanliness, food, what to do in case of accidents.

15. The care of children: Food, clothing, bath; ailments peculiar to children, with treatment.

16. Colds: Cause, duration, dangers, how to avoid, severity, treatment.

17. Ethics: Practical talks on duty; the rules of good behavior; table manners.

18. Practice in menu-making: Obtaining a balanced diet, a varied diet, fitting the menu to the income of the family.

19. Food values in relation to cost: Nutritive elements, cultivating tastes, availability of food products.

20. House management: Setting the table, serving; marketing; disinfectants and their uses; applying to the home the lessons learned at school.

SEWING.

1. List of articles and description of terms used in sewing: Needles, thread, thimbles, scissors, cloth, emery bags, tape line, pins, sewing machines, plain sewing—hand and machine, relation to each other.

2. Needles: What made of, how, different parts; kinds, as embroidery, machine, darning, tape, plain sewing needles; price, quality, care.

3. Thread: How made, where, different fibers used for thread, names, strength of fiber, upon what materials used, sizes, prices.

4. Thimbles: What made of, where worn, why worn, kinds, open or closed, pits, quality, cost.

5. Scissors: What made of; kinds, as embroidery, manicure, button hole, pockets; different parts named and drawings made; uses, cost.

6. Cloth: Different fibers (animal, vegetable); characteristics of each, cloth made from each, processes; warp and woof, uses of different kinds of cloth; conductors and nonconductors of heat and light, absorbers of moisture; how made, quality, cost.

7. Tape line: What made of, use, comparison of scales, practical measuring.

8. Pins: Kinds, what made of, uses, quality, cost.

9. Sewing machines: How to make work easier and quicker, attachments, care and use of machine, oiling and cleaning, manner of running.

10. Directions for sewing: Cleanliness, position, correct light, the eyes and their hygiene, kind of needle, thread, length of thread, thimble always, position of work.

12. Stitches: Model No. 1—Running, basting, hemming, overcasting, blanket, all described, places in garment. Model No. 2—Over handing with its various uses. Model No. 3—Description and use of machine stitches or back stitch. Model No. 4—French seam and fell seam, how made, where used. Model No. 5—Tucking and gathering, different sizes of tuck, suitability, gathering, placing of gathers, stroking of gathers, joining of gathers to band. Model No. 6—Overhanding of lace on straight edge and around corners, feather stitch. Model No. 7—Piecing, matching of stripes and plaids, joining the pieces by overhanding stitch. Model No. 8—Patching. Overhanding and hemming patch, preparing of hole for patching, use of each patch, durability. Model No. 9—Darning. What is darning, warp and woof; when darning and when patching should be used; how darning is done, thread and needle used. Model No. 10—Button hole, sewing on button, measuring of button hole, cutting of button hole, preparation for button hole stitch, button hole stitch, manner of making different kinds of ends, as barred end and round end. Model No. 11—Fancy stitches, herring bone stitch, feather stitch, blind stitch, blanket stitch, button hole stitch, description of how each is made and where used. Model No. 12—Handkerchief. Turning of hem, drawing of thread, basting hem, mitering corners, hemstitching. Model No. 13—Plackets. Plain, skirt, and tape placket, description and use of each.

13. Kitchen linen: Sink cloths, dish cloths, drying towels, hand towels for kitchen.

14. Household linen: Mosquito nets, sheets, pillow cases, table cloth, napkins.

15. Cutting: On the bias, on the straight, by drawn thread, bias bands, fitting, piecing; true and seam bias; laying of patterns on goods, fastening, cutting, interpretation of marks on patterns.

16. Clothing: White aprons and caps for kitchen, sanitary clothing to suit climate, color blending, planning outfits of clothes for little boy, for little girl, for woman, for man. Cutting of patterns. Making of baby's band, dress, petticoat; little girl's dress, waist, drawers; small boy's romper suits; night gowns, corset cover, chemise, underskirt.

After returning to their respective stations, seven of the teachers mentioned above were assigned to sewing, while the remaining seventeen were given work in both cooking and sewing. In only four cases is the entire time devoted to the teach-

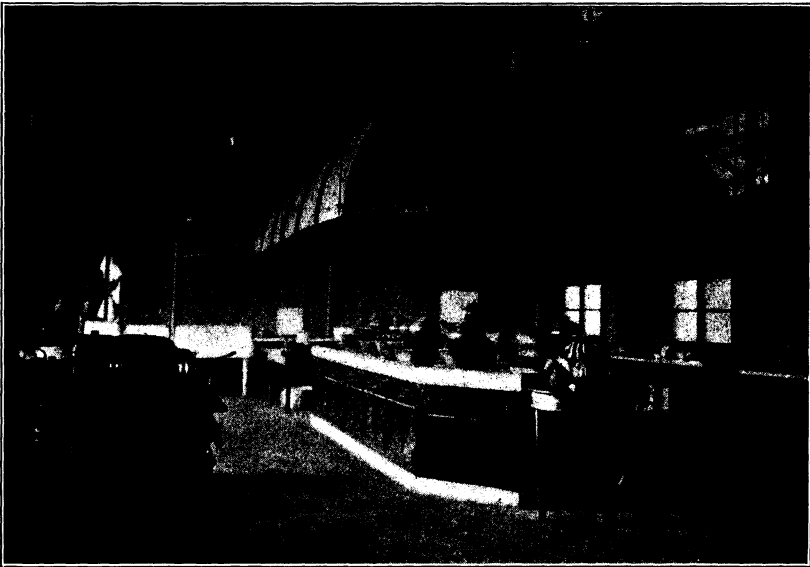


Plate IV. A view of the cooking department of the Philippine Normal School, showing native equipment and general arrangement of the kitchen.



Plate V. A view of the domestic science kitchen at the Philippine Normal School, with a class at work.

ing of household arts. As a rule, about one-half of the teacher's time is employed with the domestic science subjects, while the remainder is usually given to some industrial subject, as lace making or embroidery. In only two cases have pensionadas become assistants to regular domestic science teachers. All of the remaining twenty-two have had full charge of, and responsibility for, the work, subject to the direction of the principal or supervising teacher.

The number of pupils in the several classes varies greatly, the largest number being forty-seven, in a fifth grade sewing class. The average number to a class in both cooking and sewing is sixteen.

Four of these teachers have access to regular domestic science kitchens, four conduct their work in dwellings, while all the remainder have their establishments in ordinary school rooms.

The equipment used by these twenty-four teachers is as follows: Twenty-eight native stoves, five American stoves, two oil stoves, one alcohol stove, four "Dutch" ovens, three hand-power sewing machines, three foot-power sewing machines. It is evident that a large part of the work consists of hand sewing.

Lists of food prepared by several of these teachers, distributed throughout the Islands, are as follows:

First. Corn products, salads, cakes, candy.

Second. Bread, biscuit, cakes, pudding, doughnuts, muffins, salads, sandwiches, candy.

Third. Yeast bread, hominy, corn meal mush, biscuit, eggs in different styles.

Fourth. Salads, cakes, biscuits, muffins, cocoanuts and guayabana desserts, ice cream, doughnuts, hot cakes.

Fifth. Chicken pie, fried meat, fried chicken, goat stew, salads.

Sixth. Cakes and native foods.

Seventh. Rice, fried chicken, sauce, pudding, sandwiches, soup, cake.

Eighth. Cakes, preserved fruits, salads, sauce, desserts.

Ninth. Biscuit, bread, vegetables, eggs.

Tenth. Corn fritters, corn cakes, rice cakes, banana fritters, doughnuts, ice cream, egg plants, bamboo salad, corn soup, tomato soup, banana flower salad.

Eleventh. Rice, stewed chicken, dumplings, fried fish, salads, plain cakes, pound cakes.

Twelfth. "Recipes from Bulletin No. 35" (Bureau of Education Bulletin on Housekeeping and Household Arts).

In some cases the foods to be cooked and the materials used in sewing are furnished partly or wholly by the pupils, but in



Plate VI. A cooking class at the Philippine Normal School.



Plate VII. The sewing department at the Philippine Normal School.

general these are provided by the school. It is rather common for the pupils to furnish their own minor equipment in sewing, such as needles, thimbles, and scissors.

The work of sixteen of these teachers is reported as good, that of seven as fair, while only one is regarded as unsatisfactory, the cause ascribed for the latter being "a lack of interest and energy."

From the foregoing facts, the following conclusions are deduced: (1) That the preparation of the average pensionada

for courses in domestic science is very deficient.

(2) That one year is not sufficient time in which to acquire that training which is necessary for initiative and independent work. (3) That in most cases these girls upon returning to their stations must face conditions which would be discouraging to the best trained teachers. (4) That considering the previous study, the brief course of training given, and the scant equipment and supplies available, these pensionadas are doing all that could be reasonably expected of them.



Plate VIII. The midday lunch at the Philippine Normal School.

NOTE.—This article does not take into account the many girls who complete the special two-year course in housekeeping and household arts. These, having had better previous preparation and a longer period of training, go out as teachers of domestic science much better equipped than the scholarship teachers.

A traveling school of domestic science has been instituted in the department of Yonne, France. The school will make a stay of three months in any commune where an attendance of fifteen is guaranteed. Similar itinerant schools for domestic science exist in Ireland.

PHILIPPINE MATS.¹

By HUGO H. MILLER, JOHN F. MINIER, U. S. ANDES, THEODORE MULLER, AND MRS.
ALICE BREZINA.

[This paper is based on original designs by Mrs. Alice Brezina.]

EMBROIDERED MAT DESIGNS.

IT IS better not to decorate a mat at all than to have the design ill fitting. Design is the pleasing arrangement of all spaces unfilled as well as filled. Decoration is for beauty wholly. If all the spaces are not well arranged, the design is not beautiful. If the design is startling or gaudy in color, it is not beautiful. If the arrangement of colors is inharmonious, the design is not beautiful. All mats cannot be in the same proportion and suitable for all designs. Plate LXV, for instance, shows a long design; it requires a long mat, and would not look well on a square one.

All mats here considered are about $\frac{1}{8}$ inch to $\frac{1}{4}$ inch in width of straw. Some of the designs are used exactly as they are, counting a straw for a square which represents a straw in the design; the others are double in size and contain four times as many squares in the weave as in the design. In such cases twice the count of the design will always give the right number for the weave.

In circular mats the directions are given in inches. The sizes of the mats should be taken into consideration, but a variance of a few inches will not matter if that variance always makes the mat larger rather than smaller. In these mats more is left to the judgment of the weaver than in rectangular mats. Designs should never be crowded on circular mats. Repeated groups should always be made exactly alike.

In the color notes, a series of colors set off by commas indicates that each series may be used alone for the whole design. Often the deep colors, especially No. 1, have been left out, as the effect of a very dark color on a very light mat is often startling. Designs on mats or hangings should not be more conspicuous than the mat itself, but should rather present a complete and harmonious appearance when both mat and design are considered as a whole.

¹ This is the third and last part of the article on Philippine Mats which was begun in the September CRAFTSMAN. The second part appeared in the October number.

CIRCULAR MATS.

DESIGN A.

The straws of a circular mat cannot be counted and then divided equally by numbers, as straws are continually added at irregular intervals as the circumference is being reached. Hence, the only way to place designs on a mat of this kind is by dividing the whole mat with a diameter through its center.

Fold the mat and make a crease at the edges or mark a diameter through it with a pencil; at right angles to this diameter draw another through the same center, and the mat will now be divided



Plate LIX. Circular mat, Design A.

into equal quadrants. The quadrants may again be divided and subdivided, and marked by pencil or with strings.

In Design A the mat is about 57 inches in diameter. In a mat of this size there would be 48 units in the circle with a margin of $1\frac{1}{2}$ inches from the outer edge of the outer border line to the circumference of the mat. Divide the mat into halves, quarters, eighths, and sixteenths, and measure with strings. Each sixteenth contains three units. Divide this space into three equal parts.



Plate LX. Circular mat, Design B.

Now embroider in each third one exact unit. In weaving in the unit, always commence on its outer edge; then if any slight variation of space has occurred, the irregularity will not be noticeable, as it will be in the line work of the unit, and not in its solid part. Each unit made in working as suggested from the outer edge inward will begin the other half of a solid figure already commenced. Notice the part of the design which has been marked off as one unit, and adhere to that arrangement.

This design may be placed on a mat 57 inches in diameter, or 114 inches in diameter making each figure with twice as many straws as in the first.

In ticug mats of natural straw, this design may be done in the following colors:

No. 2, 3, 6, 9, 10, 12, 15, or 16. (12 and 16 should not be used on sabutan.)

No. 14, with a solid diamond and outer border line in No. 3.

No. 3, 6, 9, or 10, with outer border line extending to edge of mat.

DESIGN B.

In Design B, the mat should be 56 inches in diameter. In each sixteenth of the mat, as in Design A, three units can be spaced. Note the unit marked off in the design and use only this unit; weave its two outer solid parts first, with the irregularities of space occurring in the open part of the unit.²

Mats woven for this design should be 56 or 112 inches in diameter. In mats of the latter size the numbers of straws are all doubled.

In mats of natural straw, the following colors may be used:

No. 2, 3, 6, 10, 15, or 16. (16 should not be used on sabutan.)

CIRCULAR FISH DESIGN.

This design calls for the division of a circular mat into sixths or twelfths, according to the size of the mat. The diameters of mats for this design may be, 244 (about 4 feet); 304 (5 feet); 335 (6 feet); and 366 straws (7 feet). To divide a circle into sixths, mark off the circumference into distances equal to $\frac{1}{2}$ of the diameter.

In a mat of 244 straws diameter, make the outside border line one inch from the edges of the mat. About 9 inches inside of the outer border line, weave another border line one-half inch

² Three units will take up about 3 times 17, or 51 straws. In starting, a curved pattern 51 straws across will have to be made and slipped up or down in a sixteenth division of the mat in order that the margin space may be determined.

wide. Midway between these two border lines, measure and mark the space for the center fish, making it 30 counts long, 20 on the left and 10 on the right of the dividing line.

Measure spaces on the other five dividing lines to locate the central fish of each group. After weaving these central fish, go back to the first group, estimate and mark the place for the upper fish and the lower fish, and weave them, making each of the same size and proportion as the central fish, as shown in the design.

In mat 304, as noted above, the border lines and all the fish are the same size as in mat 244.

In mat 335 all measurements are the same as in the above

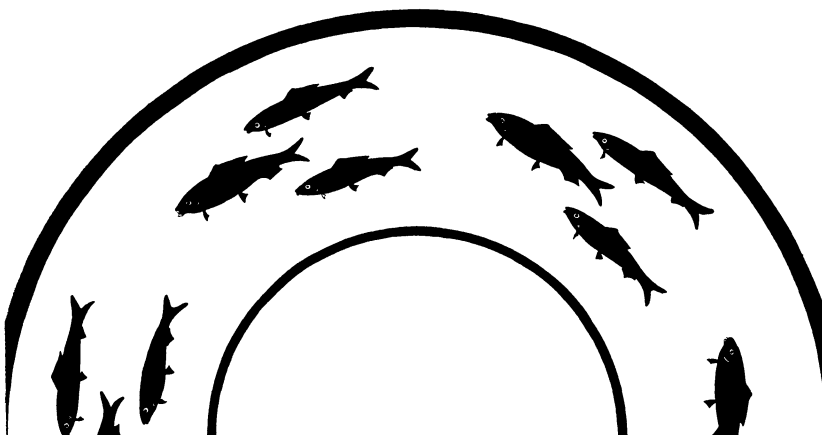


Plate LXI. Circular fish design.

mats, except that the circle is divided into twelfths instead of sixths making twice as many groups of fish.

In mat 366 the outer border line is 2 inches from the edge of the mat instead of 1 inch and is $1\frac{1}{2}$ inches thick. The other measurements are the same as in mat 335.

In mats of natural straw, the following colors may be used: Nos. 2, 3, 6, 10, 12, or 15. (12 should not be used on sabutan.)

GECKO DESIGN.

Mats woven for this design should be of the following diameters: 304 (5 feet); 335 (6 feet); 366 straws (7 feet).

Divide the circle into sixths, then into twelfths. Weave a border band on the edge of the mat $\frac{3}{4}$ inch wide. This band is not in the design but will come outside, and reach to the circumference line in the design. Down one of the twelve dividing lines, inside the border band, measure off $3\frac{1}{2}$ inches and

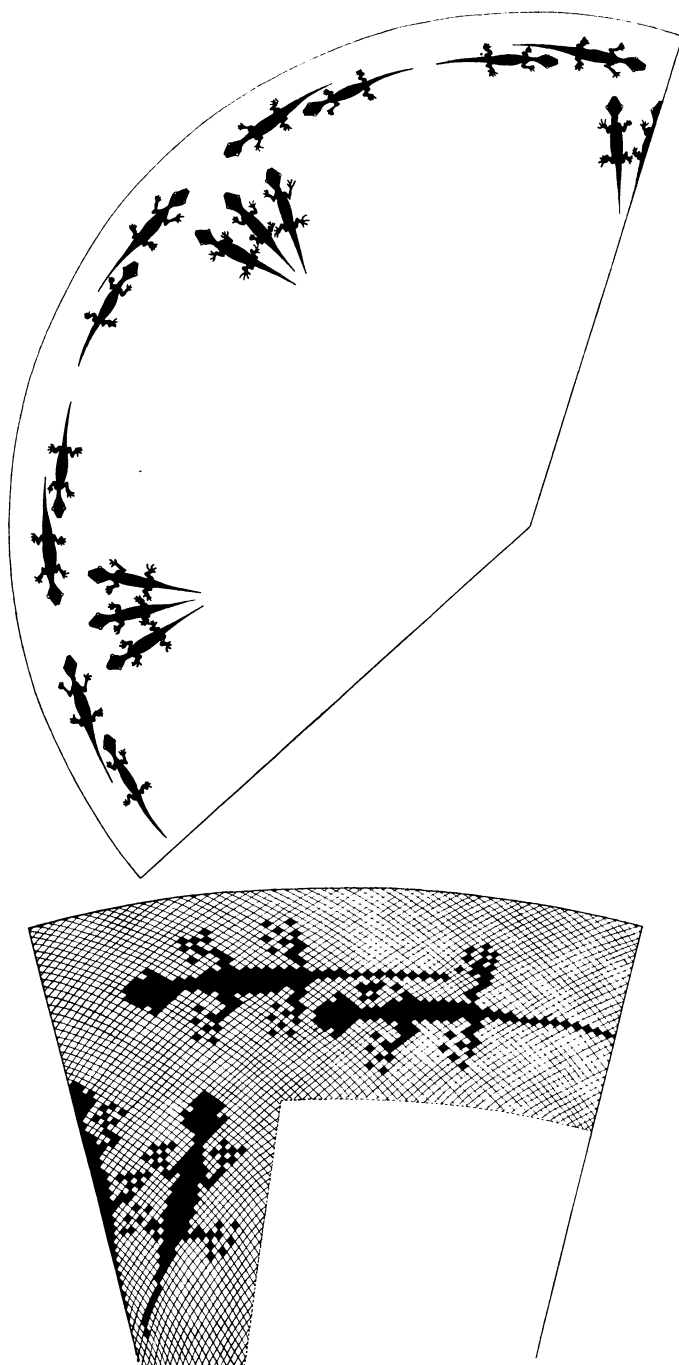


Plate LXII. Gecko design.

weave a gecko, half on one side and half on the other side of the line, extending the trail about $5\frac{1}{2}$ inches toward the center of the mat. Weave the two on each side of this gecko, and the four above it. Now space and weave the other five groups. Each group contains seven figures.

The only difference in the larger mats will be in the spacing between the tails. The groups should be spaced the same as before.

In ticug mats of natural straw, the following colors may be used:

No. 1 with band of No. 3.

No. 1 with band of No. 9.

No. 12 with band of No. 15. (No. 3 should not be used on sabutan.)

No. (singly) 2, 3, 6, 9, 10, or 15.

GEOMETRIC DESIGN F.

The distance from A (the corner of the mat) to B is 12 straws;

from B to C is 2;

from C to D is 18;

from D to E is 29;

from D to H is 16;

from H to I is 32;

from E to F is 19;

from F to G is 5.

Count from A to B. Weave from B to C and on around the entire mat.

Count from C to D and weave corner D H J E L. Weave all of the four corner designs exactly like D H J E L. Count from E to F and weave the two inner border lines around the entire mat.

Now count from H to I and mark similar points across one side. Weave from H to I. Weave from I to the next point (32 counts distant) the exact design between H and I. Weave at each point marked. Complete all four sides in a similar manner.

Mats woven for this design should be made in the following sizes:

310 by 534—from A to B is 34 straws;

266 by 394—from A to B is 22;

512 by 704—from A to B is 12;

320 by 512—from A to B is 12 (double count);

320 by 576—from A to B is 12 (double count).

In the last two sizes make the design twice as large as the

count; that is, A B should be 24, B C should be 4, C D should be 36, etc.

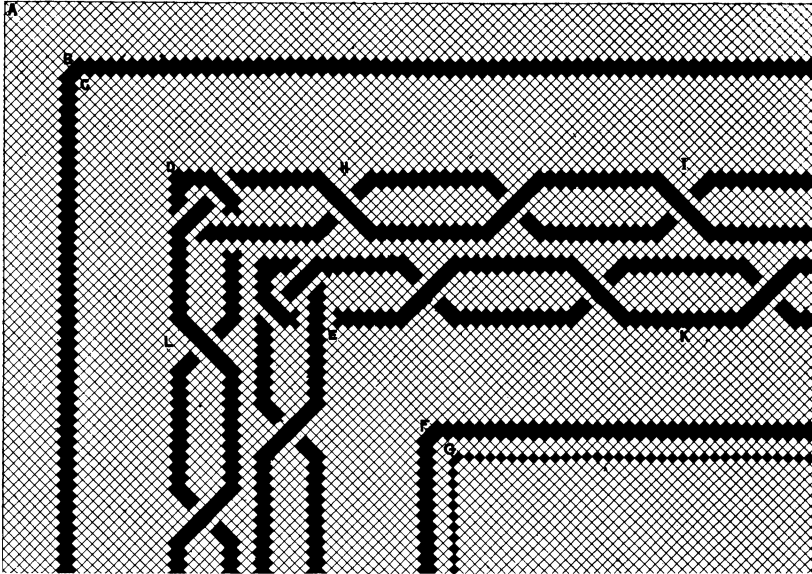


Plate LXIII. Geometric Design F.

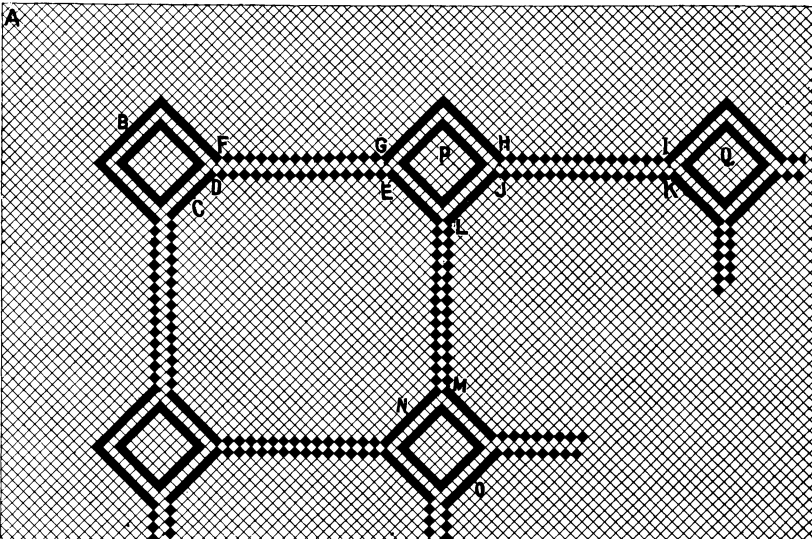


Plate LXIV. Geometric Design V.

In mats of natural color straw, the following colors may be used:

No. 2, 3, 6, 9, 10, 12, 15, or 16, each alone. (12 and 16 should not be used on sabutan.)

GEOMETRIC DESIGN V.

The distance from the corner of the mat A to B is 22 straws;

from B to C is 12;

from C to D is 4;

from D to F is 2;

from D to E is 15;

from F to G is 15;

from L to M is 14;

from C to N is 38;

from N to O is 12;

from F to P is 20; and

from P to Q is 25.

Count from A to B. At B weave the corner double square and continue on at F D to G E. Now weave the double square G H J E. Next weave the double squares in all four corners of the mat.

Now count from P to Q and mark. In the same way mark all the centers of the squares along the outer border line from corner to corner. Weave these squares, then the lines joining them. Weave down from L to M and continue the design on the inner border line, making double lines like L M as the weaving progresses.

Mats woven for this design should be of the following sizes:

228 by 378—from A to B is 22 straws;

253 by 403—from A to B is 22 straws;

311 by 536—from A to B is 30 straws;

536 by 686—from A to B is 30 straws.

In straw mats of natural color, the following colors may be used:

No. 2, 3, 6, 10, or 15.

GEOMETRIC DESIGN X.

The distance from A (corner of mat) to B is 22 straws (counting the fold at A);

from B to C is 8;

from C to D is 5;

from D to E is 4;

from E to F is 20;

from F to G is 4;

from G to H is 3;

from H to I is 6; and

from J to L is 52.

Count from A to B and weave border line around the entire

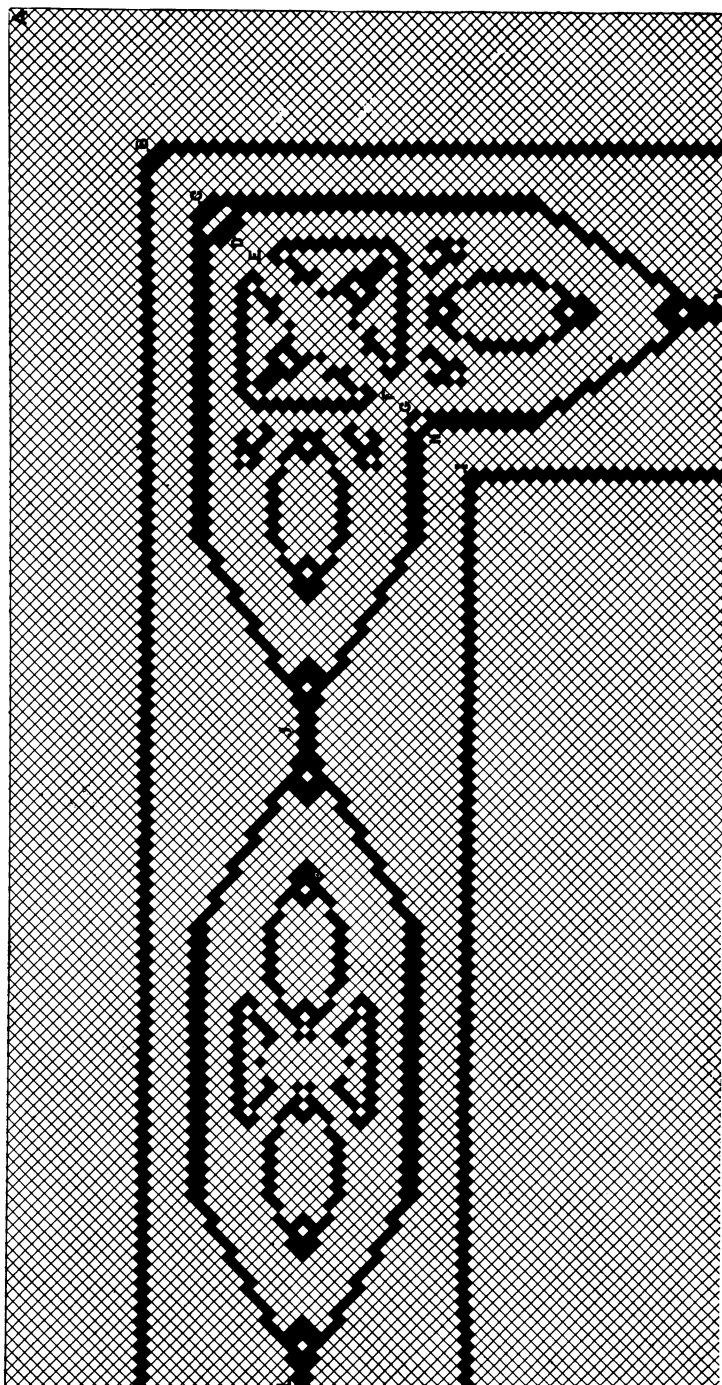


Plate LXV. Geometric Design X.

mat. Count from B to C and weave C D and over to J, back to H over to K and back to C. Weave inner part of corner design. Weave inner border line at I entirely around the mat. Weave all four corner designs. Mark off J L, and L M, and M N, etc. until the corner is reached, making L M, M N, etc. each equal to J L. Weave all designs on side now spaced off. Space off and mark each side of the mat, before weaving. Weave all sides, completing the mat.

Mats woven for this design should be in the following sizes:

269 by 425;

321 by 529;

425 by 685;

165 by 425.

In mats of uncolored straw, the following colors may be used:

No. 2, 3, 6, 9, 12, 15, or 16. (12 and 16 should not be used on sabutan.)

GEOMETRIC DESIGN Z.

The distance from the corner A to B is 12 straws;

from B to C is 3;

from C to D is 16;

from D to E is 8;

from E to F is 26;

from F to G is 17;

from G to H is 4;

from D to K is 17;

from K to L is 12;

from L to M is 17; and

from I to J is 29.

Count down from A to B and weave the border lines B C around the entire mat. Count from C to D and weave the outer square of the corner figure. Complete the corner figure to I and N. Count from F to G and weave G H around the entire mat. Complete all four corner designs.

Count from I to J and mark. From J count a distance equal to I J and mark. Make similar marks until the corner is reached. Weave the design I L M J between all these marks. Space off each side of the mat in the same way and finish the design on all sides.

Mats woven for this design should be of the following sizes:

309 by 541—from A to B is 12 straws;

319 by 551—from A to B is 22 straws;

280 by 454—from A to B is 12 straws;

551 by 696—from A to B is 22 straws.

On mats of uncolored straw, the following colors may be used :
No. 2, 3, 6, 9, 10, 15, or 16. (16 should not be used on sabutan.)

No. 14 for border lines and the four large spots in the side of each square; No. 3 for the remainder of the design.

No. 12 with spots and border lines of No. 3.

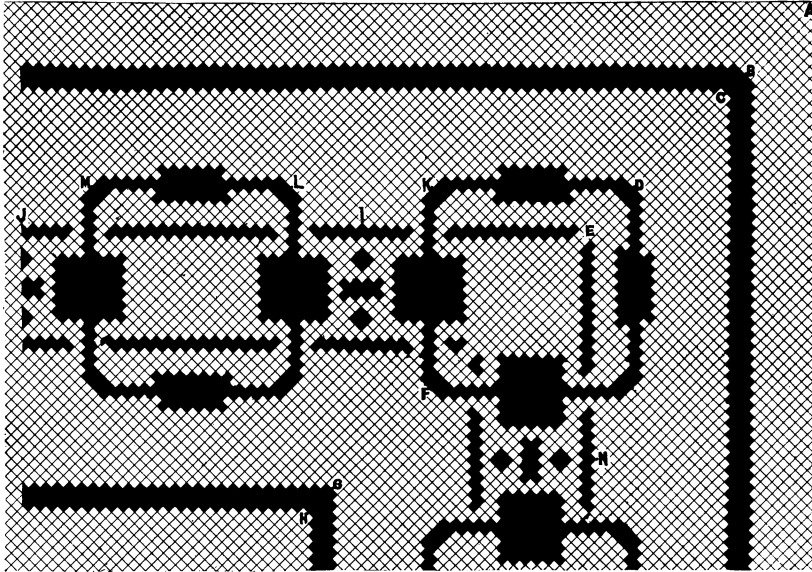


Plate LXVI. Geometric Design Z.

LARGE BANCA DESIGN.³

Distance from corner A to B is 41 straws;

- from B to C, 2;
- from B to G, 31;
- from G to S, 5;
- from C to D, 35;
- from D to E, 2; and
- from D to F, 10.

Begin weaving at letter B and weave the outer border line around the entire mat. Next weave the inside border line beginning at D.

³ This design, in all cases except where G S is 8 instead of 5, would look well with the outer border line broadened to the edge of the mat. This is a suggestion only; it means a great deal of work.

After finishing the border lines, weave all four corner designs
Count from C to H, 9 straws;

from H to I, 5;

from I to J, 27;

from J to K, 5;

from L to M, 6; and

from N to O, 8.

Now weave from O to P. From P to Q is 4 straws, and from P to R is 7 straws.

Mats woven for this design should be:

239 by 425;

301 by 487;

301 by 549;

555 by 741.

In the last mat, 555 by 741, G to S is 8 instead of 5.

On ticug mats of natural straw this design may be embroidered in the following colors:

No. 2, 3, 6, or 15, solid.

No. 14 with border lines of No. 15 (except on sabutan).

No. 14 with border lines of No. 9.

CHICK DESIGN.

The distance from A to B is 50 straws (count first fold);

from B to C is 21;

from C to D is 6;

from D to E is 19;

from E to F is 7;

from F to G is 18;

from H to I is 5; and

from G to J is 54.

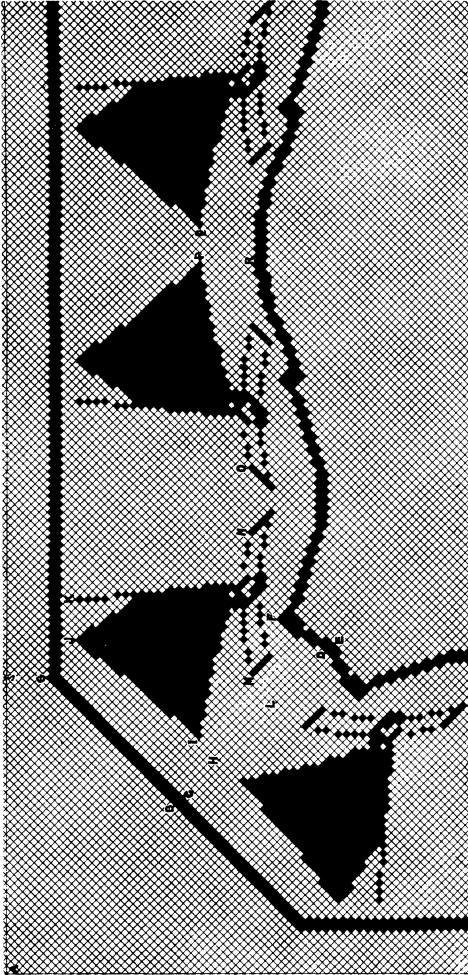


Plate LXVII. Large banca design.

Count down from corner A to B and weave the corner design. Now weave all four corner designs. Begin at F and weave the inner border line entirely around the mat.

Count from F to G and weave the design above G. Count from H to I and weave the second design. Now count from G to J and weave the figure above J exactly like the figure above G.

Mats woven for this design should be 254 by 416, 308 by 524, 416 by 524, or 590 by 806 straws. The last mat has a change in margin, and the distance from A to B is 58 straws.

This mat may be embroidered in the following colors:

No. 3, 6, 10, or 15.

ORCHID DESIGN.

The distance from the corner A to B is 13 straws;

- from B to C, 2;
- from C to D, 19;
- from D to E, 35;
- from E to F, 17;
- from C to F, 71;
- from F to G, 2;
- from G to H, 19;
- from M to N, 6;
- from F to M, 67;
- from M to K, 13; and
- from K to J, 19.

Begin weaving at B and weave the outside border line around the entire mat. Next count from C to F and weave the inside border line. Now weave

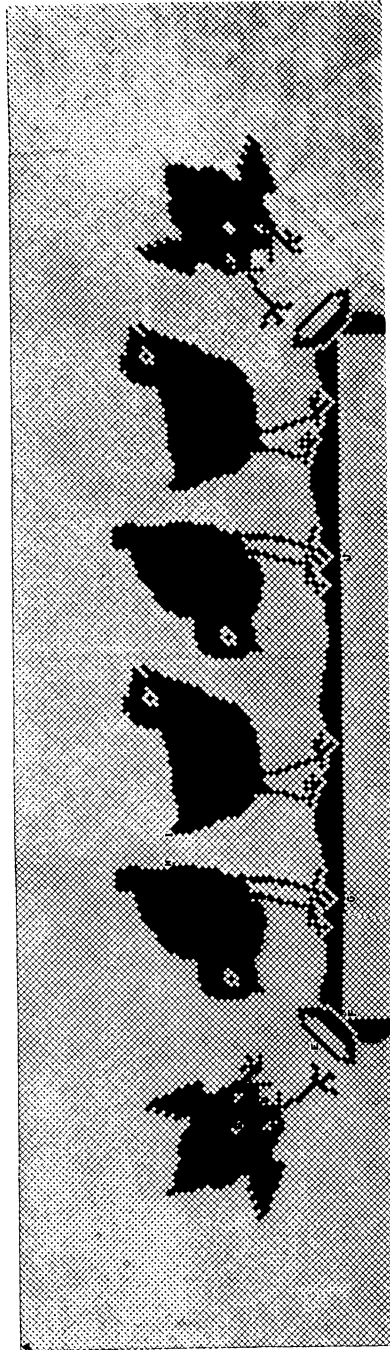


Plate LXVIII. Chick design.

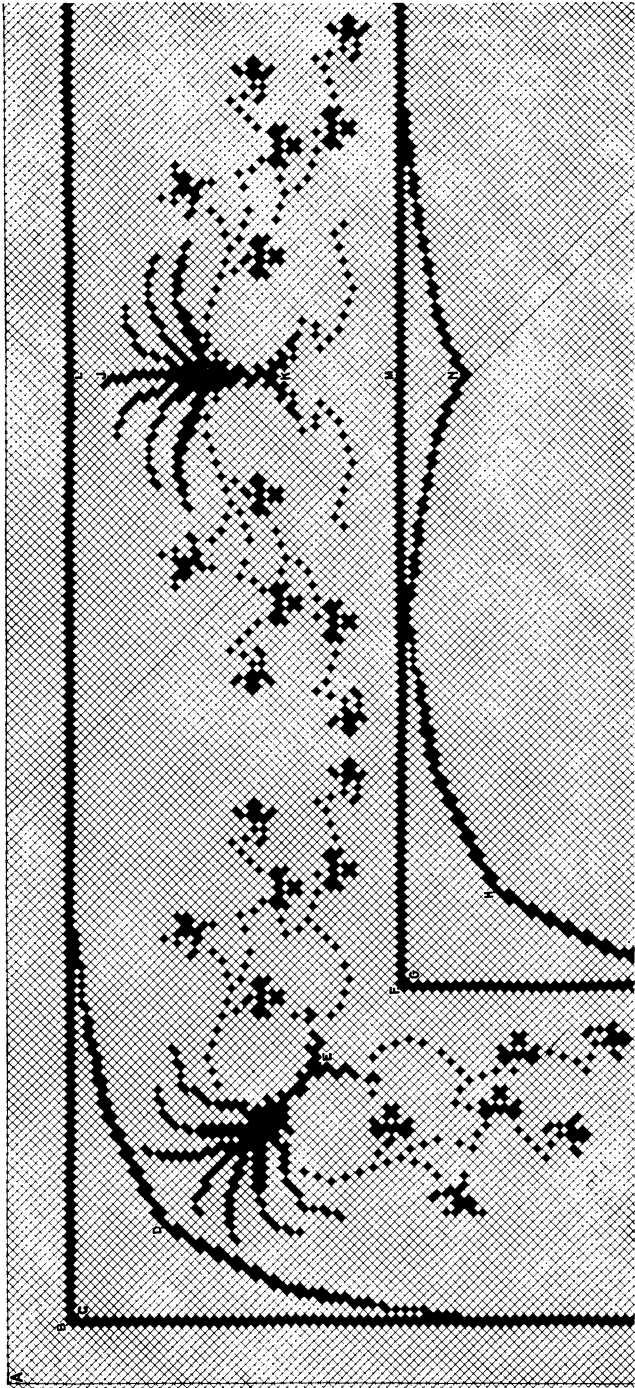


Plate LXIX. Orchid design.

all four corner designs. Count from F to M, then up to K, and weave from K to J.⁴

To find the position of the next design count 81 straws beyond L along the inner border line, and then up the same distance as L K.

Mats woven for this design should be 301 by 544; 220 by 382; 301 by 463; and 550 by 712 straws. In mat 550 by 712, A B is 17 straws.

In mats of natural color straw, the following colors may be used in the designs:

No. 2, 3, 6, or 15 solid.

No. 3 with flowers of 1 and border lines of No. 9 except in sabutan.

No. 12 with flowers of 7 and border lines of No. 15.

WOMAN CARRYING CLOTHES DESIGN.

The distance from A to B is 29 straws;

from B to C is 2;

from C to D is 36;

from I to J is 3;

from B to E is 11;

from E to K is 9;

from E to F is 21;

from F to G is 3; and

from G to H is 10.

Count from A, the corner of the mat, to B. At B begin to weave the border line. Weave first to E, then entirely around the mat.

Now count from C to D and weave the inner border line entirely around the mat. Next, weave in the four

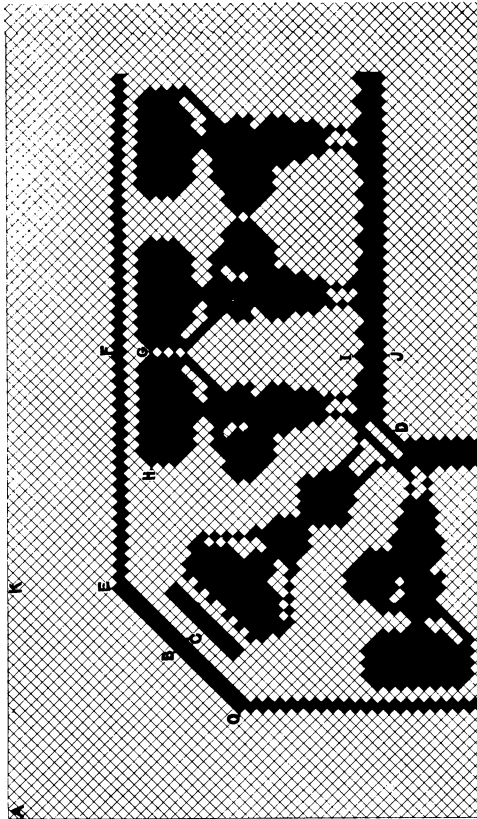


Plate LXX. Woman carrying clothes design.

⁴ Weave large solid parts of designs first, when possible, and slight mistakes of one or two straws, which may happen, will then occur in open parts where they will show very little. Mistakes of this kind are only allowable in cases of flaws in the mat which is used.

corner designs. Count from E to F, then down to G. From G to H is 10 straws. Now weave the first two designs on the side and then the next two, and so on.

Mats woven for this design should be 300 by 392; 304 by 534; 254 by 346; or 568 by 706.

On all of these mats the design will look better if twice the size of the pattern. Therefore all the above distances will be double, or as follows:

A to B, 58 straws;	C to D, 72 straws;
B to C, 4;	I to J, 6;
B to E, 22;	E to K, 18;
E to F, 42;	F to G, 6.

In mat 304 by 534, E to K is 20 and A to B is 51 (already double). In mat 568 by 706, from A (corner of mat) to B is 39, making E to K 14 straws (already doubled).

This design in ticug straw will work up well in No. 5 solid; in No. 4 solid; in No. 3 solid; in No. 5 with No. 2 as inner and outer border line, or with No. 1 as inner and outer border line.

This design on sabutan straw may be made in No. 1 solid; in No. 2 solid; in No. 5 solid; in No. 6 solid; in No. 2 with No. 1 for border lines; in No. 4 with No. 1 for border lines; or in No. 5 with No. 1 for border lines.

This design will work up well in the following colors: No. 2, 3, 6, or 15.

LAVANDERA DESIGN.

The distance from A to B is 15 straws;

from B to C is 4;
 from C to D is 40;
 from D to E is 21;
 from E to F is 3;
 from F to G is 4;
 from G to H is 3;
 from D to I is 12;
 from I to J is 13;
 from I to K is 18;
 from K to O is 5;
 from O to L is 2;
 from L to M is 26; and
 from M to N is 28.

Count down from A to B and mark B and C. Place similar marks at the three other corners of the mat. Weave the border

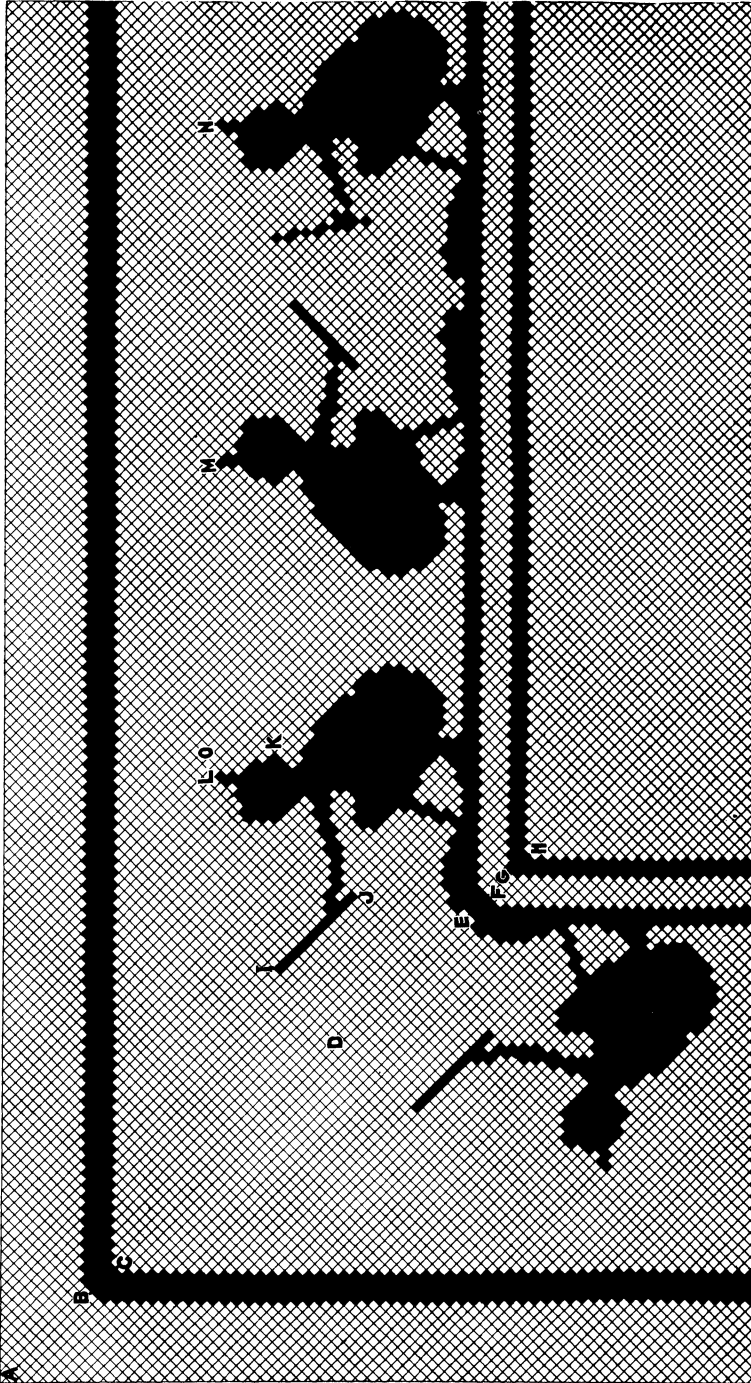


Plate LXXI. Lavandera design.

line around the entire mat, touching the marked points. Count from C to G, mark, and do the same in the other three corners.

Weave G H around the mat, touching the marked points at the corners. Count from C to D and over to I, and weave I J. Weave the whole figure just started, and the figure facing it, including the ground line beneath. Weave the other corners in a similar manner.

At K count to O, back to L, over to M, and weave the figure beneath M. Mark off L M and M N. Now continue marking alternately across the side spaces equal to L M and M N, making the last space equal to L M. Weave the figure between these marks and continue marking and weaving in the same way on the other sides.

Mats woven for this design should be made:

237 by 399;

345 by 507;

690 by 1014 (units double size);

453 by 615.

In ticug mats of natural straw the following colors may be used:

No. 2, 3, 6, 9, 10, 15, or 16, solid. (16 should not be used on sabutan.)

MAN WITH BOW AND ARROW DESIGN.

The distance from A to B is 20 straws;

from B to C is 2;

from C to D is 30;

from D to E is 17;

from E to F is 66;

from F to G is 3;

from G to H is $11\frac{1}{2}$;

from H to I is 9;

from J to K is 17;

from I to L is 33; and

from L to M is $14\frac{1}{2}$.

Count from A to B. At B weave the border band around the entire mat. Count from C to F (113) and weave the inner border line around the entire mat. Now weave all four corner designs. Count from G to H and up to I, and weave the two figures.

To place the next two figures, which are exactly like the two just woven, count out from J, 17 straws, and repeat from K which is the tip of the arrow of the first figure, just made.

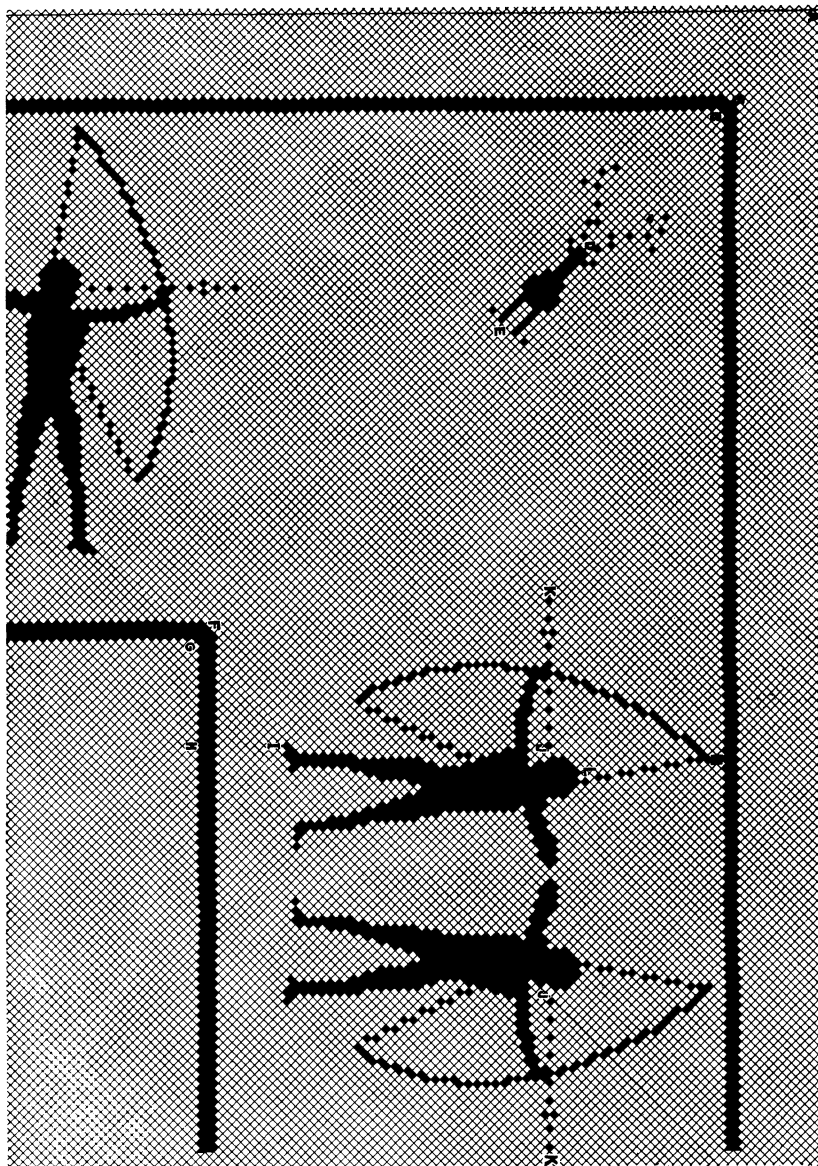


Plate LXXII. Man with bow and arrow design.

Mats woven for this design should be:

345 by 501, 9 straws;

505 by 739, 11;

739 by 1051, 11.

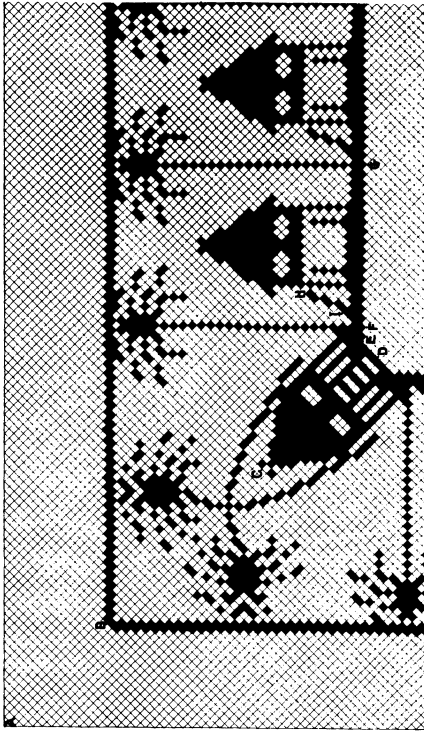


Plate LXXIII. Casa design.

In mats 505 by 739, and 739 by 1051, from A to B is 24 straws.

This design in ticug may be worked up in the following colors on natural color straw:

Solid, No. 2, 3, 6, 10, or 15.

CASA DESIGN.

The distance from the corner A to B is 22 straws;

from B to C is 33;

from C to D is 24; and

from F to G is 17.

Count down from A to B and weave border line around the entire mat. Now count from B to D and from D to E, $3\frac{1}{2}$ straws, and commence weaving the inner border line. When completed, weave in all four corner designs. Count from F to G and weave in the next design,

and so on. Let H I, the steps, be on the left of every casa except the corner ones.

Mats woven for this design should be 254 by 407 straws; 271 by 424; 304 by 542 (double); 406 by 542 (double); or 576 by 712. In the last three of these, 304 by 542, 406 by 542, and 576 by 712, the counts should all be doubled, the designs being twice the size of those in the first two mats; that is, from A to B will be 44, B to C 66, and so on.

Ticug mats in natural straw may be embroidered in the following colors:

No. 14 for casa, No. 12 for tree, No. 15 for border lines except on sabutan;

No. 3 for casa, No. 15 for tree, No. 8 for border lines; and Nos. 2, 3, 6, 9, 10, 12, 15, or 16, solid;

No. 16 should not be used on sabutan.

CHICKEN VENDER DESIGN.

The distance from the corner A to B is 15 straws, counting the corner fold as 1. All counts in this design are woven double.

Therefore from A to B is 30;
 from B to C is 17 by 2 or 34;
 from C to D is 44;
 from E to G is 16;
 from F to H is 14;
 from B to D is 78;
 from G to I is 24; and
 from J to K is 30.

Notice that the space on the right of the corner is one less than the space on the left; this will occur on the right and left of each corner. Count down from corner A to B and weave a line entirely around the mat. Count from B to D and weave the inner border line. Now weave the basket in each corner. Then weave from G to I and J to K, and so on.

Mats woven for this design should be:

332 (7) by 512 (12)—from A to B is 30 straws;
 260 (5) by 404 (9)—from A to B is 30;
 260 (5) by 476 (11)—from A to B is 30; or
 512 by 692 (17)—from A to B is 30.

On ticug mats of natural color this design may be embroidered in the following colors:

No. 2, 3, 6, 9, 10, 12, 15, or 16. (16 should not be used on sabutan).

No. 14 with a single straw outline and solid border lines of No. 9, 8, or 3.

No. 14 with outlines of No. 3 and baskets and hats of No. 1, except on sabutan.



Plate LXXIV. Chicken vender design.



Plate LXXV. Carabao cart and driver design.

CARABAO, CART, AND DRIVER DESIGN.

The distance from A to B is 32 straws, but it must be woven twice that size, making A B equal 64.

All the sizes given below are double the count on the drawings:

- from A to B is 64;
- from B to C is 40;
- from C to D is 18;
- from D to E is 6;
- from D to F is 8;
- from A to D is 122;
- from B to I is 30; and
- from G to H is 16.

Count from the corner A to B and weave B C. Count from A to D and mark off D. Count from C to D and test the count. From each corner of the mat make a count similar to A D and mark. Weave the border line, commencing at D, around the entire mat, touching the marks at the corners. Weave design B C, and a similar design in each remaining corner. Count from B to I and weave design I J. At J count 2 and weave another design like I J facing I J. The space between the backs of the carts, not shown on this diagram, is 6.

Mats woven for this design should be in the following sizes:

- 258 by 396;
- 258 by 534;
- 396 by 534;
- 534 by 672; or
- 672 by 810.

In ticug mats of natural color straw the following colors may be used:

Singly, No. 2, 3, 6, 10, or 15; and No. 3 with border line of No. 9.

ROOSTER DESIGN.

The distance from the corner A to B is 13 by 2 or 26 (counts in this design are all double); from B to C is 28 by 2 or 56; from C to D is 5 by 2 or 10; from D to E is 26 by 2 or 52; from E to F is 3 by 2 or 6; from E to O is 3; from O to G is 11; from H to J is 11; from G to H is 56 by 2 or 112.

Count from A to B in all four corners and mark B in each corner. Join all the B's by a double border line. At the first B count down to C and over to D and weave D E. Count from E to O and up to G and mark. Mark H, counting from G. Mark J, counting from H. Mark all points similar to H and J on this side of the mat, counting back from the corner a space equal to G B. Now weave all designs on this side of the mat. Mark off spaces on each side of the mat before weaving that side.

Mats woven for this design should be 202 by 538; 314 by 538; or 426 by 650.

In ticug mats of natural color straw, the following colors may be used:

No. 2, 3, 6, 10, 15, or 16. (16 should not be used on sabutan).

No. 3, cock; No. 14, comb, (three squares from I to C and two above M); No. 1, legs and feet; No. 15, grass and other

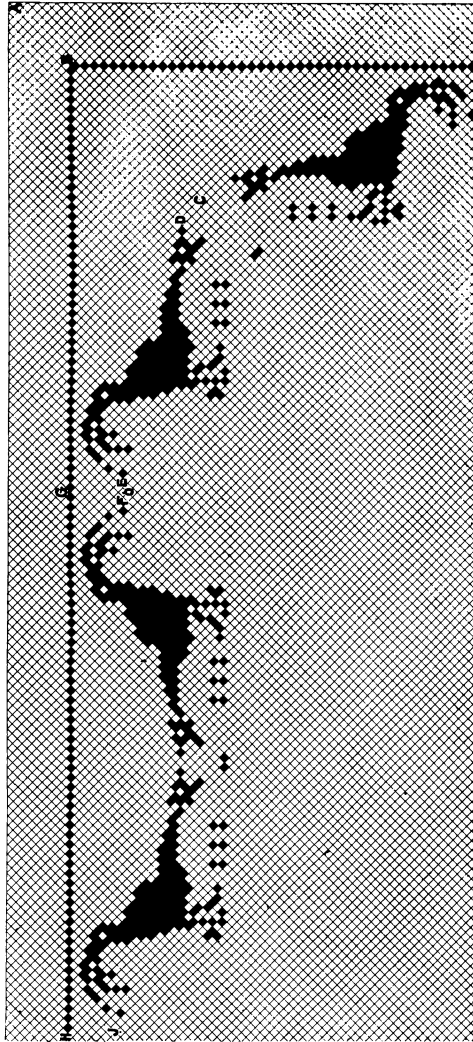


Plate LXXVI. Rooster design.

border line. (On sabutan use No. 14 instead of No. 1 for legs and feet).

CARABAO HEAD DESIGN.

The distance from A to B is 25 straws;

- from B to C is 3;
- from C to D is 23;
- from D to E is 3;
- from E to F is 4;
- from F to G is 11;
- from G to H is 31;
- from F to I is 22;
- from H to J is 3;
- from I to K is 37;
- from L to M is 11;
- from I to N is 12;
- from N to O is $12\frac{1}{2}$; and
- from I to P is 7.

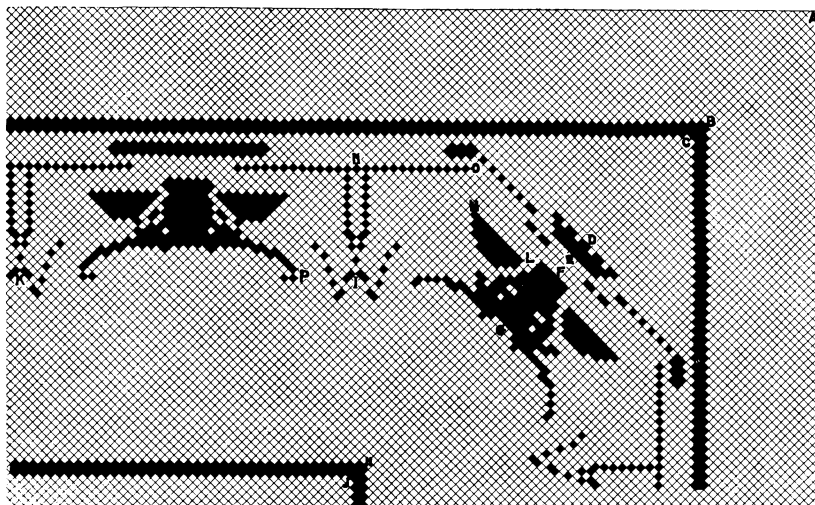


Plate LXXVII. Carabao head design

Count from the corner A to B and mark. Count the same number in from every corner and mark. At B weave the border line the thickness of B C around the entire mat, intersecting the marks at the other three corners.

Count C D and weave the corner design D G. Count from G to H and mark. Count from B to H and see if the mark is correct. Mark off B H in the other three corners and weave the border line H J around the entire mat. Now weave the

other three corner designs. Count from F to I and mark. Count from I to K and mark.

From K on, mark off distances like I K along this side of the mat until the last point is reached. The remaining space to the point similar to F will equal I F. Now weave the intervening designs, and complete the mat.

Mats woven for this design should be of the following sizes:

319 by 541;
257 by 405;
490 by 712; or
393 by 541.

In ticug mats of natural color straw the following colors may be used:

No. 3, carabao and all border lines; No. 15, grasses.

No. 2, 3, 6, 9, or 15.

FISHTAIL PALM DESIGN.

This is an "all over" design. The unit counts are as follows:

from A to B is 33 straws;
from B to C is 11;
from C to D is 22;
from E to F is 35;
from E to G is 5.

From the corner of the mat, A, on the long edge, count down to B. At B count in to C. Mark C O D E F and weave the design. From D count 44, and a point similar to C will be reached. Weave the same pattern again. From F count 55, and a point similar to E will be reached. Weave the same pattern again.

Measuring as at the first corner A, mark off spaces and weave all three other corner designs. Weave all intervening designs, first between corners on the sides of the mat, then on the interior.

Mats woven for this design should be:

374 by 520;
506 by 700;
572 by 790;
638 by 880.

On ticug mats of natural straw, the following colors may be used separately, not in combination:

No. 2, 3, 5, 6, 9, 10, or 15.

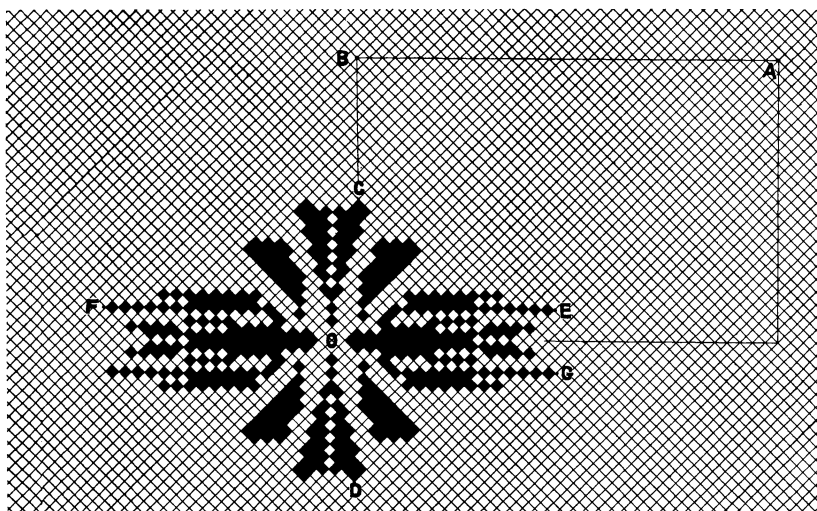


Plate LXXVIII. Detail of fishtail palm design.

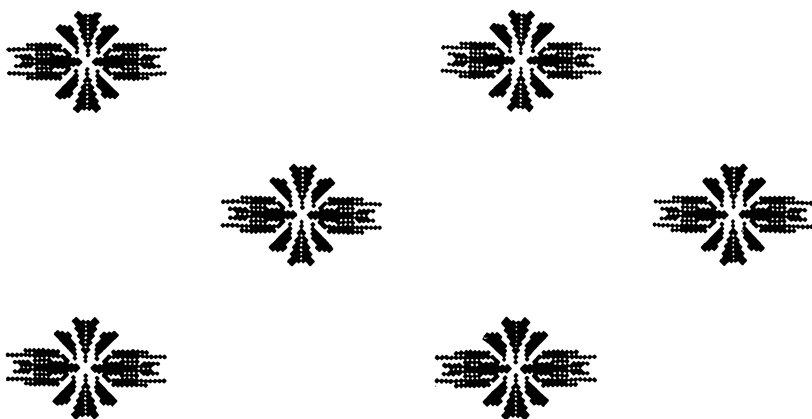


Plate LXXIX. Arrangement of fishtail palm designs.

EDITORIAL AND OFFICIAL.

THE Bureau of Education has held a yearly exposition of articles fabricated in the public schools of the Philippines from and including 1907. The original purpose of these exhibits was to inform the public of the work being done in the schools in carrying out the industrial policy of the Bureau. More recently exhibits have been held for the purpose of improving the standard of the industrial work rather by comparison, by giving teachers an opportunity to inspect the product of the schools in all parts of the Islands. More than six hundred teachers visited the exhibit at the First Philippine Exposition, held in 1912, carrying back to their home provinces sample articles and new ideas to be applied to the improvement of the work of their own pupils. These yearly exhibits have also continued to serve the purpose of acquainting the commercial community with the possibilities of industries for the homes of the people, and have brought the merchant in touch with the producer.

The Carnival
Exhibit.

Since 1907 all articles submitted have been for sale; this plan was adopted at first because of the desire of the public to purchase, and later to test the quality and salability of the work and fix prices on new lines that may have developed during the year. The results of these sales have been very satisfactory; they have served as a guide in experimentations with new industries in the schools.

In addition to this, the Bureau has now adopted the plan of selecting certain of the best made articles from the exposition and of using them later for exhibit purposes in the Industrial Museum attached to the General Office, and in traveling and display exhibits both in the Philippines and in the United States.

Plans are already well under way for the exhibit which will be held in Manila in connection with the Carnival of 1913, during the first nine days of February. In preparing for this undertaking, the schools have been advised to follow the plan, which in many provinces proved so successful last year, of holding preliminary exhibits in the barrios, municipal centers, and provincial capitals. From these displays the best articles were set

aside to be sent on to the next higher exhibit, the final selection in the provincial capitals being for the Insular exhibits at Manila. It is evident that the preliminary exhibits held in the barrio and municipal schools, reaching as they do the great mass of pupils and parents, should be made as interesting and instructive as possible. In some respects these intermediate exhibits are similar in character to the country fairs in the United States, in connection with which the schools hold athletic and forensic contests. But in so far as the barrio or village exhibits are concerned, the Philippine schools are probably unique. In these the work is brought before the masses—those who are to be most benefited by the extension of industries into the homes, through the medium of the schools. The success of all school industrial exhibits held in the provinces will depend in a very great measure upon the enthusiasm shown by the school authorities and their success in interesting the pupils and parents in these activities.

The Bureau of Education Exhibit for 1913 will be very similar to that of 1912; but it will have a broader significance. Every school coming under the administration of the Bureau of Education with classes in the third grade or above will be expected to furnish a certain amount of industrial work, based on the number of pupils in the school in comparison with the total number of pupils in the province. It is estimated that the Exhibit of 1913 will have a total value of ₱50,000, and will mark a distinct advance in all lines of industrial work.—L. P.

One of the surest evidences that we of the Philippines have done something worth while—and done it at an opportune time—in the way of shaping the curriculum of our schools so as to meet the needs of the people is the note of dissatisfaction which seems to be felt all over the United States in regard to the system of education in vogue there. That the system, which is as yet mostly purely academic, needs radical revision is evidenced by the fact that not only educational journals, but the magazines generally, are taking the matter up and making it the subject of searching inquiry and criticism. In the September number of *THE PHILIPPINE CRAFTSMAN* we commented upon the trend of educational thought in the United States, as revealed in the utterances of two distinguished educators at the 1912 meeting of the National Educational Association. The *Forum*

The Trend of
Educational
Thought.

for September contains an article by Edward M. Weyer on "What the Schools do not Teach," in which the author points out the inadequacy of the existing system of instruction, although without definitely suggesting any remedy for the defects. He confines himself rather to a statement of what the people are thinking and cites some opinions decidedly at variance with each other. One paragraph of the article is rather striking:

"The vast majority of our people regard education as a process of receiving knowledge; a few hope that some day it may be made a process of acquiring ability. The popular clamor is for a system that may speedily bring every child to a state of preparedness for commencing his training in some industrial pursuit; the teaching, many hold, should be made entirely vocational after the child has reached his fourteenth year. By way of contrast to this opinion, one of the foremost psychologists of this country assured the writer that he would be satisfied if each of his own children, by the age of fourteen, could saw a board straight, and drive a nail well and that he believed this test would be indicative of true attainment, for the knowledge taught in the schools up to that age would be later forgotten and it could be learned much more rapidly for the first time after that age."

In *The World's Work* for August, Frederick T. Gates, chairman of the General Education Board, arraigns the existing system of education in the rural schools of several of the states and paints a picture of "The Country School of To-morrow." He speaks of the "vast, various, costly educational systems of a Christian people, unrelated in any effective way to the earthly life and needs of those for whom it exists" and then outlines his vision of the remedy. Taking the congressional township, six miles square, as the rural school unit, he says:

"We shall need a group of school buildings, * * * ample grounds, many acres, * * * since our school in its aim includes everybody, old as well as young; it is to be in session all the year round, and everyone shall have something yet to learn always before him. Every industry in the district finds place in our curriculum. Every kitchen, barn, dairy, shop, is a laboratory for our school. The growing crops, the orchards, the vineyards, the gardens, the forests, the streams, the domestic animals, nay, even the tools of every farm, are part of our scientific equipment. The horizon forms the walls of our museum of natural history and the sky its roof, and all the life within is material and specimen for our study. * * * Our schools will no longer resemble in their methods and their discipline institutions of penal servitude. They will not be, as now, places of forced confinement, accompanied by physical and mental torture, during six hours of the day."

Under the caption of "Training Head and Hands" the editor of *The Saturday Evening Post* (September 28) also pays his respects to the antiquated system of education, pointing out the

fact that all over the States boys have been leaving school long before graduation because mere academic instruction no longer interests them, and how, particularly at Lansing, Michigan, and Hartford, Connecticut, there has been effected "a coöperative arrangement between schools and various shops in the city whereby boys can earn something, learn a trade under actual shop conditions, and still receive textbook instruction."

"These small but valuable experiments point in the direction we must go. The vast waste and inefficiency of the old educational system are more apparent and become more clearly understood every day. In the end we must educate boys and girls for the needs of American society *as it exists to-day*, and not according to purely theoretical requirements *whose only validity rests upon a state of society that existed a hundred years ago when education was an aristocratic interest.*"

The great majority of us who, twelve years ago, were actively concerned in implanting the American system of education in the Philippines had been brought up under the old purely academic régime, and naturally our first efforts here were directed along similar lines. However, it soon became apparent to both educator and onlooker that the system was deficient. True, one of the earliest official acts of those responsible for the trend of educational affairs was to provide for a school of arts and trades; but the necessity of carrying industrial training as an integral part of the curriculum in all the schools did not sink in until some four or five years later. Fortunately for all, we were not hampered by any embarrassing precedents; and we were particularly free from a species of tyranny, well-intentioned withal, exercised by some educators in the States who seem to lose sight of the actual daily-life needs of society in their efforts to make of the lower schools mere feeders to the classical or semi-classical colleges and universities. With a free hand and a clear field for experiment and investigation, every teacher and school official who had a real interest in his work met the situation squarely and became an active corrector of untoward educational tendencies.

We do not claim to have reached the zenith of excellence, but we are confident that the Philippine Bureau of Education has been moving in the right direction. The results of a few years of effort and observation warrant us in contemplating with just pride the following phases of our curriculum: An hour (or more) of industrial training for each pupil daily throughout the four years of the primary course; the special courses in trades, farming, and housekeeping and household arts for intermediate

grades; the requirement that even in the general (academic) intermediate course no boy is graduated without having had a year each in handweaving, gardening, and woodworking, and no girl, without having had three years in housekeeping and household arts; the Philippine School of Arts and Trades, as well as the dozen or more similar institutions in the provinces; the various school farms and the hundreds of school and home gardens throughout the Islands; the department of industrial training in the Philippine Normal School, where every candidate for graduation is required to become proficient in one or more lines of minor industries of the Islands.

The recent establishment of a Government sales agency and of a school of household industries for adult women is also significant in this connection in that it indicates the intention upon the part of those in authority to extend governmental influence, protection, and assistance into the field of economic-educational endeavor even beyond the point where the child "leaves school" in the ordinary sense of the expression. To the matter of governmental intervention in the field of industry, ably discussed by the Sales Agent in his "First Annual Report" (1912), is clearly traceable the remarkable thrift and prosperity enjoyed by practically all the countries of Northern Europe, in spite of the extreme density of their population; and it was undoubtedly something of this sort that Mr. Gates had in mind when he painted his picture of "The Country School of Tomorrow."

Verily, the old order changeth—J. D. DEHUFF.

NOTE.—See the notes in the September number of *THE PHILIPPINE CRAFTSMAN* on this same subject.

Particular attention is invited to the article on the System of Apprentice Instruction in The Manila Bureau of Printing, which appears as the leading article in this issue of *THE CRAFTSMAN*.

The Apprentice
System of
the Bureau of
Printing.

This paper deals with a branch of industrial training which is in most countries directly under the public schools. However, as stated here, in the Philippines the work is performed on a purely commercial and trade basis by the above-mentioned Bureau, which comes, nevertheless, under the Department of Public Instruction, to which the Bureau of Education also belongs. The apprentice system furnishes profitable employment to hundreds of deserving young men in a trade

which has a big future before it in the Philippines. The Manila Bureau of Printing is the only thoroughly equipped institution of its kind in the Orient. The time should not be far distant when the young men who have received their training in this educational institution will be needed in all parts of the Islands to supply the increasing demand for the product of the printer's art in this age of enlightenment and progress.

Incidentally, it may not be amiss to remark that, inasmuch as the Bureau of Printing has no branch in any other part of the Islands, with the exception of the summer office operated in connection with the Baguio program, future years may develop a need for courses in the printing arts in other centers, which may then be properly established as departments of provincial trade schools.

The apprentices who are the subject of this discussion are almost without exception public school boys. To those who have been following the issues of the present volume of *THE PHILIPPINE CRAFTSMAN*, their work needs no introduction. Any number of this magazine, or of the numerous other periodicals and various publications of the Philippine Government, may be taken as a sample of their handiwork, produced under the conditions described in this month's leader. We believe that the craftsmanship displayed in this present paper on the System of Apprentice Instruction is a rather unusual evidence of the efficiency of the system employed and a tribute to the intelligence and skill of the Filipino young men on whom that system depends.

This discussion is closely related to the studies in vocational guidance which are now being carried on by the Bureau of Education.

With the exception of the past five years, there has been a nautical school in the Philippines ever since 1820. It was called the "Escuela Náutica" or "Academia de Pilotaje." It appears to have been established by the Manila Board of Commerce, which expended from its own funds over ₱20,000 upon the school. At the time of its transfer to the American régime, American text-books and methods were introduced. The requirements for admission were necessarily low. It was necessary for the applicant to read and write, and to have a good knowledge of arithmetic and geography. With such requirements many students were able to enter the school with an education equivalent only to

The Nautical
Department of the
Philippine School
of Arts and Trades.

our present primary course. During the last four years of its existence, the average enrollment was a trifle above one hundred. Up to the time of its close in March, 1907, a total of fifty-seven cadets were graduated. For a number of years there had been agitation for a training ship for the use of the school. This vessel was never furnished, however, and the question of practical training on ship board was never satisfactorily settled. There was also considerable question as to whether the school should remain under the Bureau of Education or be transferred to the Bureau of Navigation. The appropriations for its support were uncertain. Due to certain misunderstandings, the students entered upon a school strike which led the Government to close the school in 1907.

The fact that this school was in existence for more than eighty years and that it was supported in part by the Manila Board of Commerce shows that the school must have been answering a real need. The bills passed last year by the Philippine Legislature with respect to the reestablishment of this school and the recent petition of the Shipowners' Association for the reopening of the nautical school show that the lack of such a school has been keenly felt. At present there is a dearth of licensed ship's officers for the coastwise trade. Shipowners are frequently compelled to take officers who have passed the required examination but who do not have all of the qualifications desired. In order to improve this state of affairs and to provide a sufficient number of trained men to fill the vacancies caused by the steady development of the inter-island shipping, the reestablishment of the nautical school has been practically decided upon.

Many friends of this measure strongly urged the provision of a training ship for this purpose. The great cost of maintaining such a ship, however, removes it from consideration, at least for the present. The following plan of instruction will probably be followed. The school is to be a department of the Philippine School of Arts and Trades, and it will open next June. The mathematics and English are to be taught by teachers of the Bureau of Education, and all subjects relating to seamanship will be handled by experienced officers detailed from the Bureau of Navigation and the Bureau of Customs. A two years' theoretical course will thus be given. The long vacation will be spent upon interisland vessels. Upon completion of the theoretical course, the cadets will be given eighteen months' practical training upon vessels belonging to the Bureau

of Navigation and to the members of the Shipowners' Association. After this practical experience, students will be given an examination for licenses as ship's officers, and if successful, will be given every possible assistance in securing employment, both by the Government and by the association.

Applicants for admission to this school must be between the ages of 18 and 23 years. They must have completed the intermediate course of instruction, or its equivalent, and must come well recommended both as to ability and moral character. In addition, a physical examination will be required.

All expenses for board and lodging must be paid by students themselves while attending the school. During their instruction on ship board, they will be allowed board and ₱15 per month, this arrangement being guaranteed by the Shipowners' Association. The beginning class will be limited to forty students and these will be selected according to their records for scholarship, application, character, and physical condition.

The opportunities offered for graduates from this school are excellent. Employment is regular and promotions are steady, depending, of course, upon individual ability. The shipping in the Philippine Islands is increasing rapidly, and, owing to the fact that this country consists of thousands of islands, it is bound to continue to develop. Nor are the opportunities limited to this country. A capable officer can secure employment in any part of the world, and his rise to eminence in his profession has no limitations except those of his own ability.—W. W. M.

The *Journal of Education* for September 19 notes that the August number of a very popular magazine says "the public school is a momentous failure," among the charges being the assertion that "only seven children in a hundred from the elementary grades ever go to the high school." The *Journal* promises that the number for October 3 will contain "an interesting exposure of these glaring misstatements."

Common Schools
the Hope
of Our Country. Even if it is a fact that only seven children in a hundred from the elementary grades ever go on into the high school, just why that fact should be a source of worry to anybody is not quite clear. And most certainly such a statement could not constitute a serious charge against the public schools. It is manifestly not given to every child to have the benefit, often a doubtful one withal, of a high school education; and any system of economy or philosophy which

presupposes high school training for every child is, in our opinion, all wrong. "Common schools the hope of our country" is a motto about as old as the United States. Let us "take the cash" of the elementary school and "let the credit" of the higher institutions go. For purely financial reasons, hundreds of thousands of children are unable to continue in school after finishing the elementary grades; and if those children have been given such instruction as may enable them to read, write, compute, live decently, and have a due and active respect for the nobility of honest toil, no charge of failure will lie against the public school.—J. D. D.

The National Education Association, at its annual meeting in Chicago in July, 1912, adopted the following resolutions:

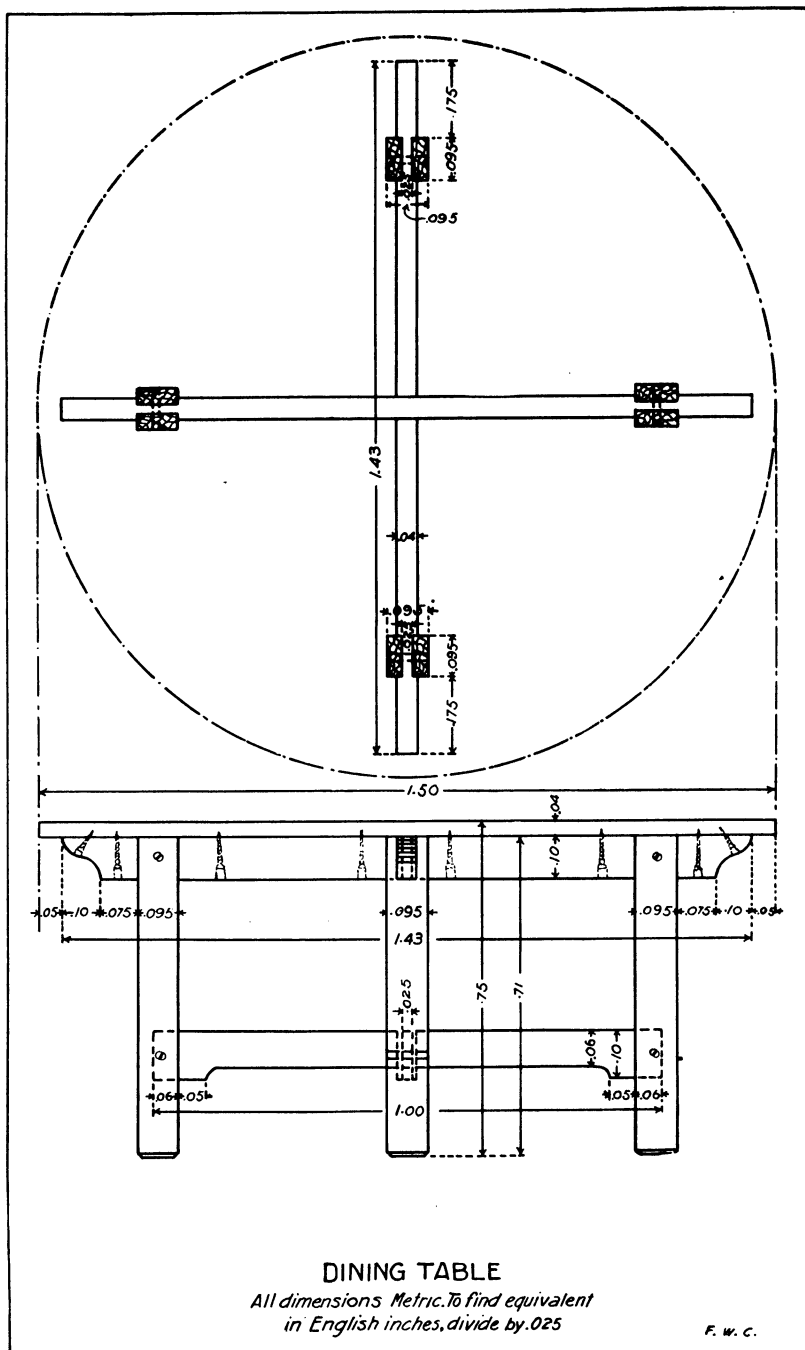
"Resolved, That this Association places itself on record as favoring such changes in the courses of study in our elementary and secondary schools, together with such changes in methods of instruction as shall make it possible to assist the pupil in the ready application of such knowledge as he may acquire to actual life conditions.

"Resolved, That this Association earnestly urges upon the educational people of this country, as well as upon others who are engaged in social work, the necessity for definite progress along the line of vocational guidance for youth; and that such guidance be carried on under the direct control of a vocational adviser, or expert who shall be appointed by, and subject to, the control of a council of laymen in the several local communities; and be it further

"Resolved, That the courses of study in our elementary schools be so enriched as to make it possible to discover the tastes, tendencies, and abilities of the child previous to the time when such vocational decisions are to be made."

o o o

For there is a perennial nobleness, and even sacredness, in Work. Were he never so benighted, forgetful of his high calling, there is always hope in a man that actually and earnestly works. In idleness alone is there perpetual despair. Work, never so Mammonish, is in communication with Nature; the real desire to get Work done with itself leads one more and more to truth, to Nature's appointments and regulations, which are truth.—THOMAS CARLYLE.



An excellent design for dining-room table—economical and serviceable.

INDUSTRIAL NOTES.

One of the features of Corn Demonstration Day at Batangas, Batangas, on October 10, 1912, was the display of industrial plants of the province. The plants, with roots, stem and all, collected by Mr. George Whiting in his district at Tanauan, were planted in boxes with some gold soil and shipped to the provincial capital.

In the exhibit were several species of nito. The palms were represented by tipon-tipon and the fishtail palm. A very good collection of rattan was included; some young seedlings and other more developed plants—Bamban, lukmoy and the important vine “silang pugo”—were also exhibited.

It is of interest to note how the teachers in Batangas Province came to know the various materials with which they are now working. A report to the Director, dated July 7, 1911, says “Basketry material is very scarce. Teachers seem to know very little of the ordinary materials. Lukmoy can be obtained sufficiently cheap in Mindoro to be used in the schools.” Another report under date of October 14, 1911, says: “They have tipon-tipon growing quite plentifully. They have found that basketry material may be obtained from Mindoro at a reasonable price.” Under date of November 20, 1911, in circular No. 62, s. 1911, the Division Superintendent of Batangas quotes a letter from Mr. Whiting of the same province, parts of which are as follows: “During the past month I have made quite an extensive search for lukmoy and found it growing extensively in all barrios of Tanauan, Lipa and Sto. Tomas * * *. I have also found another plant * * * commonly called bamban by the

natives. The plant grows very profusely along the banks of streams.”

Teachers now say that fiber plants for basketry are plentiful in most districts of Batangas. Other provinces will probably follow the same course in their search for materials: At first a doubt as to the presence of materials, then eagerness to buy them from some other place, and finally a recognition of the fact that the plants that yield these industrial fibers are found within easy reach, on every hand.

The plants at the Batangas exhibit attracted considerable attention, and the questions asked by visitors were evidence of the interest shown. The value of such an exhibit lies in acquainting the teachers, the younger generation, the townspeople, and many of the barrio people with the plants which should come into more general use.

In connection with such an exhibit of industrial plants, it would be advisable to have also displays of raw and prepared materials, and actual processes showing the working of the fibers into finished articles.

After the exhibit in Batangas, the plants were taken to the Normal Institute which was then in session, so that the teachers might become thoroughly familiar with the industrial plants of the province.—T. M.

o

Not many of the trade schools or manual training departments in these Islands have been under the personal direction of the same principal for any considerable length of time. The establishment of new industrial schools, the annual departure of American instructors, and the time required to properly train Filipino

teachers to direct in a competent manner the instruction therein given have occasioned frequent shifts in the teaching forces. Occasionally a principal is met whose service has continued since the establishment of the school. One of these is Mr. Exequiel Magsaysay, of the manual training department of the Zambales provincial school. His notes and impressions on the success obtained by graduates trained under him are of more than passing moment, for they indicate the interest and concern felt by the instructor in the welfare of his students in the vocation they have chosen.

He has the following to say with respect to graduates of his school, their occupations, and the salaries they are earning:

"There are at present more than fifty of my former pupils engaged in carpentry work with an average wage of ₱1 a day. Specific mention of some of the most successful may be of interest. One is at present a foreman of native carpenters engaged in the Bureau of Public Works in Manila at a daily wage of ₱5; another is working as a carpenter in the Naval Reservation at Olon-gapo drawing a monthly salary of ₱100; another is employed as carpenter in schoolhouse construction in the Province of Zambales at a daily wage of ₱2. Others are employed as carpenters in the Olon-gapo Naval Reservation. One student worked as carpenter on bridge construction during the last long vacation using his brother's tools.

"I have also been told that more than fifty of my former pupils have purchased their own tools, with which they do private work as carpenters outside of their regular work hours.

"Three of my former pupils in carpentry at Iba are now studying trade work in the Manila Trade School. Ten pupils worked last year on the articles or exhibits sent

to the Philippine Exposition held in February, 1912. Some of these pupils are still studying carpentry under me; others have taken positions as instructors in this branch, and the rest have gone to Manila to continue their secondary studies.

"Last year (1911-12) I had 33 pupils in the seventh grade, 32 in the fifth grade, and 36 in the fourth grade. All were taught carpentry and drawing, as outlined by the Bureau of Education."—L. R. S.

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DESIGNS IN CURRENT NEEDLEWORK MAGAZINES.

The October number of the *Modern Priscilla* contains an exceptionally large number of very pleasing designs. The bedspread on page 6 is truly beautiful and the chemisettes on page 8 are very pretty and dainty and, treated in this way, make a most desirable novelty. Exception is taken to the statement that the collar, No. 12-10-18, is perfectly lovely for a child's coat: its beauty is spoiled by the clumsy corners. Lighter ones, more in balance with the collar, could easily be formed with the same leaf design used in the outer edge, and a simpler effect more suitable for child's wear could thus be obtained.

The *Home Needlework Magazine* for August-September, 1912, contains a number of designs which are very nice. The filet crochet border on page 239 is particularly good, also the design for the belt on page 262 and the collar on pages 233 and 235. Of the waist designs, those on pages 244 and 248 are simple and good. Those on 245 and 247 are poor, however, being spoiled by the circular sieve-like arrangement of open work on the front. The same unit could be reduced in size and repeated in symmetrical arrangement, thus securing a much more pleasing effect. Of the corset covers, the design on page

254 is best. The motifs used in that on page 251 are disjointed and lack correlation, and that on page 252 has an unfinished appearance. The line of the design could be extended to follow the top line or the central front line of the garment with better effect. The chemise design on page 256 has a barren look; one feels a desire to complete it. Another simple curve reaching toward the inside of the shoulder line and enclosing a smaller butterfly would improve it.

The design for the breakfast set on page 258 is very nice, but the jabo on pages 259 and 260 are poorly shaped. Beauty of line is sacrificed to novelty in the first one, and the second is not graceful. Reverses and side frills are no longer novelties. Just as a design, however, that on page 264 is particularly nice, while the design on page 263 is poor. The line of the foliage is poorly directed, being mechanical and unnatural. There is a lack of coherence in the design on page 265 and the corner of that on page 266 is spoiled by dropping the insect motif upon it. The crochet bags on pages 273, 274 and 275 are good. The designs show both unity and coördination, qualities lacking in much of the Irish crochet seen.

Embroidery Lessons with Colored Studies for 1913, published by Brainerd and Armstrong Co., contains a large number of acceptable designs, some of which are very good; only the cushion tops are poor. The use of the American flag to decorate a sofa pillow as on page 103 seems an inappropriate placing of ornament. Cushion top No. 1600-3 has no value for design and the others on this page are poorly constructed. The same is to be said of those on page 107 and page 109, except No. 1600-12, which is good; it would be still better if the corners were filled. On pages 111, design 2702-2 is acceptable in that space but poorly placed in the larger space as shown in No. 2701-2 on page

110. Nos. 2701-5 and 2702-5 are the only other good ones. This publication should prove very helpful in suggestions for designs of commercial value.—S. C. J.

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The policy of the Bureau of Education with respect to existing industrial courses is that of giving pupils sufficient training in as many industrial branches as can be advantageously pursued, for the purpose of preparing them for a useful livelihood. From time to time, however, instructions from superintendents affecting school industrial work appear in such a form as to indicate that certain other very important elements may well be taken into account in this connection.

A recent division circular from Laguna brings into prominence one very important consideration under the subject of "The Time Element in Industrial Work." Certain portions of it are so suggestive and timely in relation to our entire industrial plan that it is thought advisable to give them in full:

"The purpose of the Bureau of Education in introducing industrial work in the public schools is to make out of the pupils men and women who are economically efficient and thereby increase the intelligence, wealth and prosperity of the country.

"To be economically efficient it is necessary to be able to produce articles of commercial value in working a reasonable amount of time. If we cannot teach our pupils to make more and better articles in a given amount of time than formerly produced we are not making much progress.

"The formula for efficiency is

$$\frac{\text{quality} \times \text{quantity}}{\text{time}}$$

time

It is understood that beginners cannot produce as much as skilled operators and quality should be em-

phasized rather than quantity, yet the time element is important and the time in which an article can be produced or a given amount of labor performed should decrease from day to day or the efficiency does not increase.

"In order to emphasize the time element and in order to better judge the efficiency of each pupil, individual work should be encouraged. The making of an article by a class or by a group of pupils should be discouraged unless the work is so divided that the efficiency of each pupil may be determined."

Modern business conditions are requiring that greater insistence be placed upon this very point of increased efficiency in industrial and commercial methods of production, and it is safe to say that if the element of time is given the emphasis that it deserves, pupils will be led to comprehend this very essential factor, with which they will be brought face to face in any industrial or business effort.—L. R. S.

O

The division superintendent of schools for Albay has issued a circular relative to the tagging and mounting of girl's industrial work and the instructions contained therein are of value to all:

"It has been observed that many teachers are very careless about the proper tagging and mounting of finished articles in Irish crochet and other lace and embroidery work. This should not be so. An article neatly and attractively mounted and tagged shows to good advantage, while one carelessly mounted is not pleasing to the eye and its sale value is decreased in the eyes of a buyer. The pupil should be taught to mount her finished article under the direction of the teacher.

"Each teacher will be held responsible for the measurements given on the tags of all laces and inser-

tions from her school. Guessing is unpardonable. Each teacher should have a meter stick and should measure each finished piece of lace herself using meters and centimeters to express the amount. Be sure that good measure is given.

"To all finished articles a tag should be attached containing all of the information which is required on the Carnival tags. These tags should be sewed to the article in as inconspicuous a place as possible. They must not be pinned to articles. Catalan paper is excellent for this purpose because it is strong. The tags should be made out on the typewriter and may be completed with either pencil or pen. The tags should all contain the following information:

No.....
 Price.....
 Article.....
 Materials.....
 Description.....
 Municipality.....
 School.....
 Province.....
 Maker.....
 Grade.....
 Age.....
 Materials furnished by.....

—

Due municipality.....
 Due pupil.....

"All insertions and edgings should be mounted on cardboards of uniform size. These cardboards should measure 9 cm. in width and 17 cm. in length. The lace should be wrapped around the cardboard the long way until there is only enough left to go around 3 times more. Then a piece of pink tissue paper about 25 cm. by 20 cm. should be folded in a little so as to make it about 17 cm. wide instead of 20 cm. and the center of it should be left free. The remaining lace should be wrapped carefully around the cardboard over the pink paper, care being taken to have the right side of the lace up. Then the two ends of the paper should be folded neatly

over the back of the cardboard, overlapping each other and pasted. Two strings of pink paper about 25 cm. by 20 cm. should be wrapped around the face about 20 cm. from the top and bottom, and pasted together on the back.

"Enough paper to wrap six pieces of lace including the two narrow bands for each card can be cut from

one double sheet of tissue paper without any waste whatever."

"Care should be taken not to wrinkle the paper, as that detracts from the appearance of the article when it is on exhibit."

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RIMS OF BAMBOO AND RATTAN BASKETS.

The half round rattan commonly used for rims of baskets is not suit-

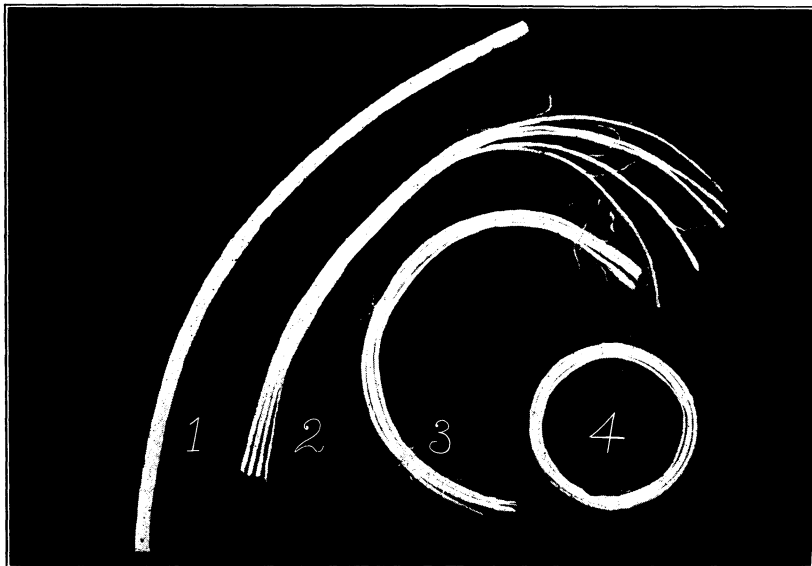


Plate I. Preparing the material for the rim.

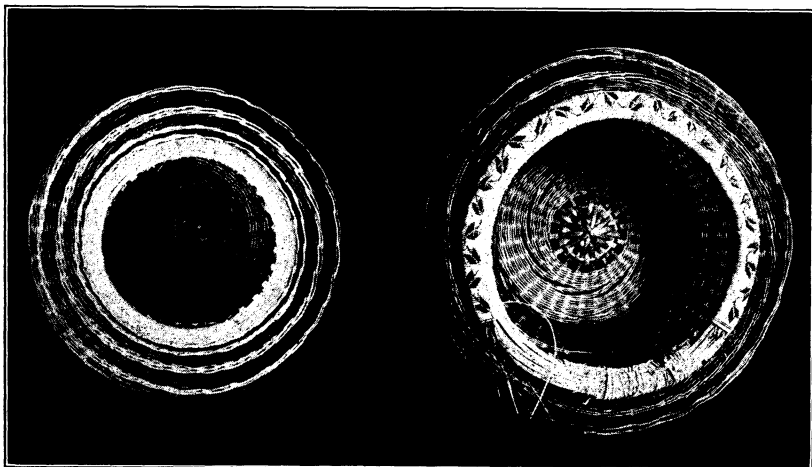


Plate II. Steps in the making of the rim.

able for bamboo and rattan baskets of the shapes shown in the accompanying cuts. In order to obtain the desirable crouching effect it is necessary to split an almost flat piece of rattan and bind it as shown in the steps of Plate I. It is split to prevent it from buckling up on the inside edge of the rim.

After being thus split and bound it is put on the basket as shown in Plate II. The binding is then done in the ordinary way.

Bamboo takes color the best of all basketry materials available in the Philippines, and with the fast dyes that are now procurable through the Bureau of Education it is possible to turn out very artistic and durable baskets of this material.—
 ULYSSES S. ANDES, *Philippine Normal School*.

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THE EXHIBITS IN THE UNITED STATES.

When Mr. Frank R. White, Director of Education, left for the United States, he took with him a large and excellent exhibit of industrial articles made in Philippine schools. The Bureau of Education is already hearing from this exhibit, officially and unofficially. It is understood that the exhibit attracted very favorable attention at the Art Institute in Chicago, where it was displayed for several days. One personal letter states that when the writer visited the Art Institute "there was a regular deluge of public school pupils, each with a notebook." Already several requests for articles such as were included in the exhibit have been received at the General Office of the Bureau of Education.

Mr. Hugo H. Miller of the General Office will leave in November for the United States and will take with him a representative exhibit somewhat smaller than the one taken by Mr. White. It is Mr.

Miller's intention to display his exhibit in as many places as possible and to persons who will be interested in it from various viewpoints; i. e., educators, importers, retail merchants, artists, and dealers in art objects. He will remain with the exhibit while it is on display with the idea of obtaining more definite information than is now available on the salability of the articles and the relative demand for them in the United States.

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CATALOGUE OF THE CITY NURSERY.

The city of Manila has recently issued an illustrated catalogue of the plants cultivated in the city nursery. This catalogue was prepared by Mr. E. D. Merrill of the Bureau of Science. It is an excellent publication and contains much information of value to those who are engaged in ornamenting grounds. The very clear description which each plant receives will enable the average man to recognize it and to be able to select trees and plants suitable for decorative purposes. It is understood that a limited supply of these catalogues will be available for distribution upon request to the superintendent of sanitation and transportation, Manila.

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Teachers who have occasion to use lupis in connection with their industrial work will be interested to learn of a process which has been worked out in the province of Albay by which the material may become available more quickly than by the ordinary method of allowing it to dry in the sun. The directions for preparing it are taken from Division Circular No. 63, s. 1912:

"Lupis can be best prepared by ironing it with a flat-iron. Immediately after it is taken from the abaca plant it should be ironed with a very hot iron until it is perfectly dry. By this process of preparation

it becomes much whiter than when dried slowly."

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An arrangement has been made in Santa Cruz, Marinduque, Tayabas, for giving the civico-educational lectures in connection with the official inspection visits of the municipal president to the barrio schools of the town. The lectures are also

given in the municipal building at the regular Sunday meetings of the heads of the barrios, the municipal president being the speaker. This plan suggests the idea of making school inspections by the municipal president a regular part of the school program, and it is believed that it would do much to bring the school and people to a better understanding of their mutual duties.

BUREAU OF EDUCATION PUBLICATIONS.

(Abbreviated list.)

ANNUAL REPORTS:

- Eighth Annual Report of the Director of Education, 1908. (Supply limited.)
- Ninth Annual Report of the Director of Education, 1909.
- Tenth Annual Report of the Director of Education, 1910. (Supply limited.)
- Eleventh Annual Report of the Director of Education, 1911.
- Twelfth Annual Report of the Director of Education, 1912.

BULLETINS:

- 5. Notes on the Treatment of Smallpox.
- 10. Government in the United States. Prepared for use in the Philippine Public Schools.
- 24. Outline of Year's Course in Botany and Key to the Families of Vascular Plants in the Philippine Islands.
- 28. The Milkfish or Bangos. (Supply limited.)
- 29. Constructive Lessons in English, Designed for Use in Intermediate Grades.
- 31. School and Home Gardening.
- 32. Courses in Mechanical and Free-hand Drawing, for Use in Trade and Intermediate Schools.
- 33. Philippine Hats. (Supply limited.)
- 34. Lace Making and Embroidery.
- 35. Housekeeping and Household Arts—A Manual for Work with the Girls in the Elementary Schools of the Philippine Islands. February, 1911. (Supply exhausted.)
- 36. Catalogue and Announcement of the Philippine Normal School. May, 1911. (Edition exhausted.)
- 37. School Buildings and Grounds.
- 38. School Buildings—Plans, Specifications and Bills of Materials.
- 39. A Manual of Free-hand Drawing for Philippine Primary Schools. (In course of preparation.)
- 40. Athletic Handbook for the Philippine Public Schools.
- 41. Service Manual of the Bureau of Education. (Supply exhausted.)
- 42. Intermediate English II—Notes, Directions, and Aids to the Preparation of the Correspondence Study Course.
- 43. Catalogue of the Philippine School of Arts and Trades, 1911-12.
- 44. Libraries for Philippine Public Schools.
- 45. The School of Household Industries.

CIVICO-EDUCATIONAL LECTURES:

- 1. The Rights and Duties of Citizens of the Philippines. (Supply limited.)
- 2. The Prevention of Diseases. (Supply limited.)
- 3. Rice. (Supply limited.)
- 4. Diseases of Animals. (Supply limited.)
- 5. Coconut Beetles. (Supply limited.)
- 6. The Housing of the Public Schools. (Supply limited.)
- 7. Coconuts.
- 8. Corn.

THE TEACHERS' ASSEMBLY HERALD

- Volume I, 1908. (Edition exhausted.)
- Volume II, 1909. (Edition exhausted.)
- Volume III, 1910. (Edition exhausted.)
- Volume IV, 1911. (Supply limited.)
- Volume V, 1912.

TEXTBOOKS:

- Selected Short Poems by Representative American Authors.
- Commercial Geography; the Materials of Commerce for the Philippines.
- Macaulay's Samuel Johnson; Emerson's Self Reliance; Lincoln's Gettysburg Address.
- An Introduction to the Study of Colonial History.

MISCELLANEOUS:

- Woodworking, a Manual of Elementary Carpentry for Philippine Public Schools.
- Some Recipes for Preparing Jellies, Preserves, Pickles, and Candies from Philippine Fruits. (Supply limited.)
- Syllabus of Economic Conditions in the Philippines. (Supply limited.)
- A Statement of Organization, Aims, and Conditions of Service in the Bureau of Education.

THE PHILIPPINE CRAFTSMAN:

- Volume I. (Now current.)

